December 1959 75¢

DUN'S REVIEW
AND MODERN INDUSTRY

GUIDE TO MANAGEMENT PLANNING: EXPERTS PREVIEW A DECADE OF BUSINESS CHANGE AND CHALLENGE

GROWTH TARGET: 1970

C38S I 960
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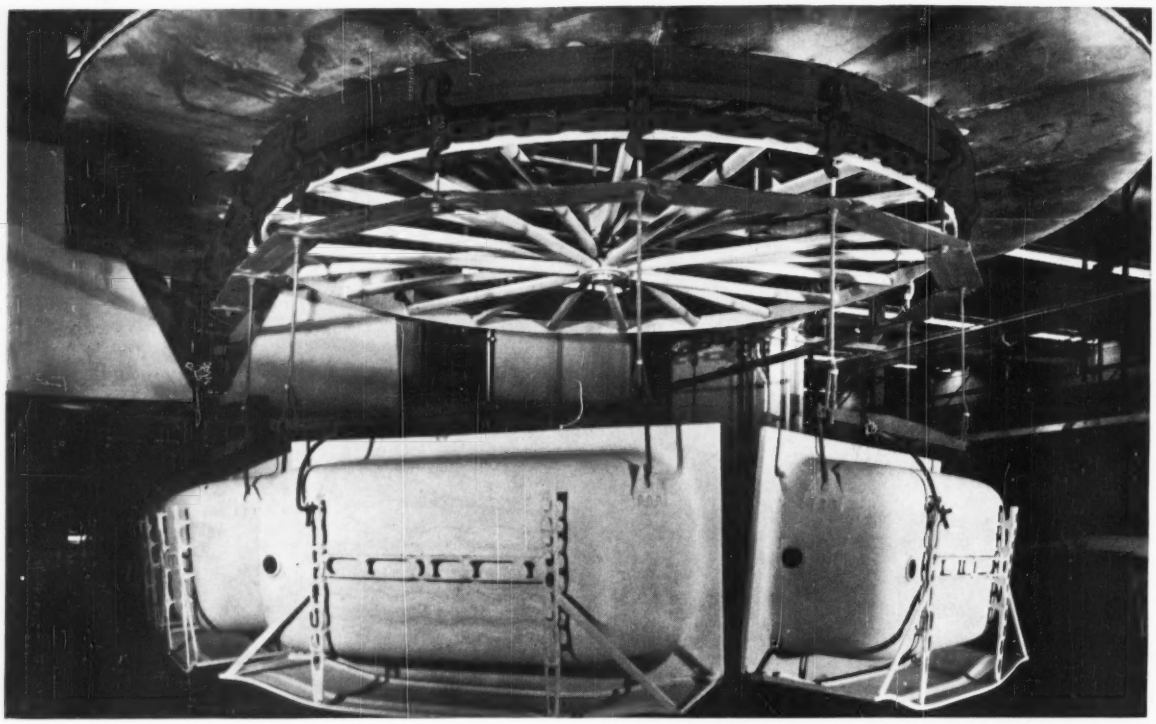
A DUN & BRADSTREET PUBLICATION

LINK-BELT trolley conveyors

run parts continuously through processing systems



PLUMBING FIXTURES ride a mile-and-a-half network of Link-Belt trolley conveyors at Briggs Manufacturing Co., Warren, Mich. The Ferro Corporation of Cleveland furnished enameling facilities —chose Link-Belt trolley conveyors for spray booths, drying ovens, blowoff booths, furnaces. Above, bathtubs make 180° turn to enter furnace. Furnace seal plates protect the conveyor.

Above work areas or through otherwise unusable plant areas, Link-Belt trolley conveyors transport parts or products through all processing steps in a continuous flow.

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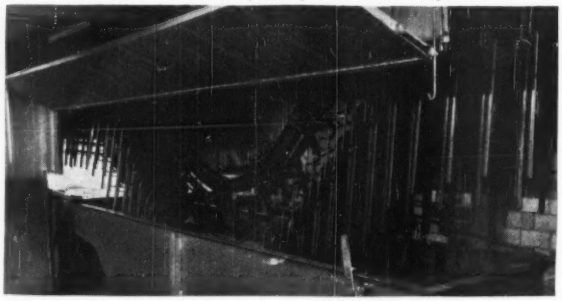
For expert consultation, call your nearest Link-Belt office today, or write for Trolley Conveyor Book 2330.



METAL FOLDING CHAIRS travel on a Link-Belt trolley conveyor system through cleaning, bonderizing, painting and baking operations at American Seating Co., Grand Rapids. System was developed by De Vilbiss Metal Fabricators. (prime contractors for finishing operations) and production engineers of American Seating Co.

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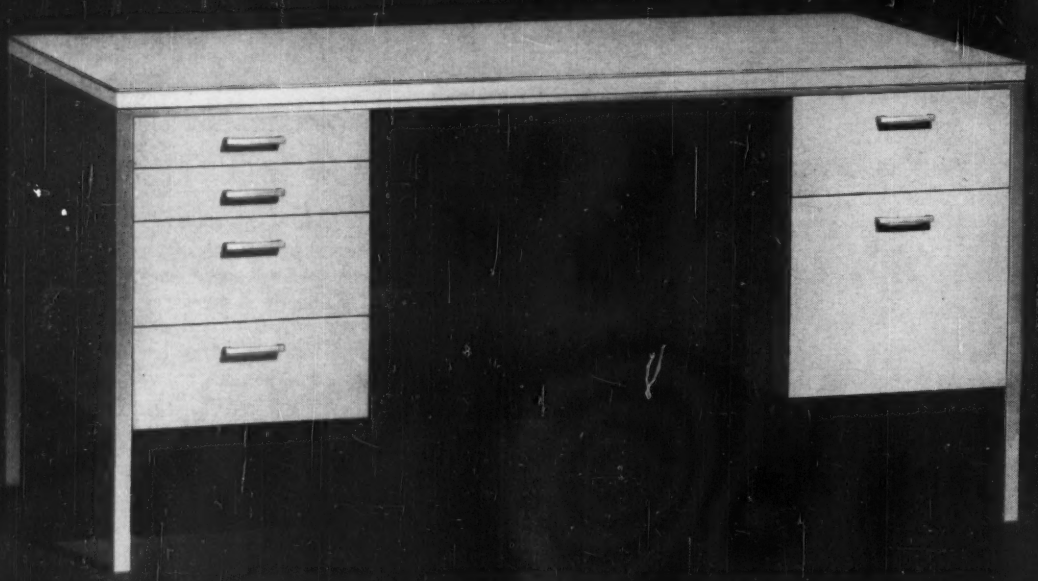

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DUN'S REVIEW AND MODERN INDUSTRY, December 1959, Vol. 74, No. 6. Published monthly by Dun & Bradstreet Publications Corp., J. Wilson Newman, President. Publication Office: 300 West Adams St., Chicago, Ill. Entered as second class matter at the Post Office, Chicago, Ill.

Correspondence for Editorial, Advertising, or Subscription Offices should be sent to Dun's Review and Modern Industry, 99 Church St., New York 8, N.Y.

Subscription: $5 a year in USA and Possessions, and Canada. Elsewhere, $10. Single copy, 75 cents. Please state title and employing company when subscribing.

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CREDITS: Cover, Dean Ellis; *pages 5, 11, 13, 37, 39, 41, and 46*, charts by Art Associates; *pages 45 and 97*, photographs from United Press International; *pages 48, 49, 50, 51*, illustrations by Max Shepard.

EDITORIAL

Dollar Delusions

In a period of tight money, many business men look to the Government to loosen the pursestrings and provide the banks with a larger inventory of dollars. The most difficult lesson for the borrower to learn is that the Government cannot create money—it can only protect, distribute, or dilute what its citizens have in their pockets, in savings banks, and in various credit ventures.

Uncle Sam is no King Midas who can transmute everything he touches into gold. At the moment, he is in the embarrassing position of watching our mountain of gold dwindle at Fort Knox and move overseas as well-guarded ballast to offset balance-of-payments deficits and military expense commitments. The Government has no untapped resources in money. It knows no secret formula for creating credit. The Government is as rich or as poor as the taxpayer, and whenever we, as business men, get a loan from Uncle Sam, we borrow from ourselves at a risk to all other taxpayers.

The Federal Reserve System, often abused for its discipline of the money supply, is the vigilant observer of the flow of credit into the lifestream of business. Its actions reflect the relative health and vigor of the economy. The "Fed" is the hand at the credit controls which stabilizes the power-thrust back of the wheels of industry and trade.

There is only one way to create real dollars. You can't mint them by edict. You make dollars by earning them, and you build credit by saving them. Someone has to save a dollar in order for someone else to borrow it and put it to work on the assembly line. When money is tight and interest is high, the demand is greater than the supply. Those are the kindergarten facts of financial life. The marriage of productivity and thrift begets prosperity and healthy dollars at home and abroad. There is no other way of obtaining solid growth.

Economists talk in terms of the "constant dollar," an attempt to iron out the fluctuation of the dollar and peg its value as prices rise and fall with the pulsations of the economy. Nothing stands still in the competitive tensions of the marketplace, and there is nothing rigid or fixed in the physical nature of trade. Values lift and sag with the whim of the customer, and all this is natural to the activity of the buyer and seller. It is only when someone attempts to by-pass fundamental economic principles that there is the certainty of retribution.

Productivity and thrift offer the best support we can give to the trading position of the American business man and the prestige of the dollar. We cannot look to the Government for any magic word that will loosen credit for industrial expansion and make dollars flow into the mill-race of international trade. The answer lies in the ingenuity and integrity of the individual. He cannot sidestep his responsibility any more than he can elude the image in the mirror.

another Cutler-Hammer *first...*

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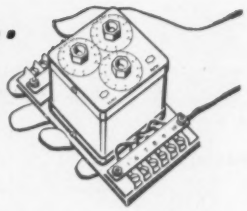
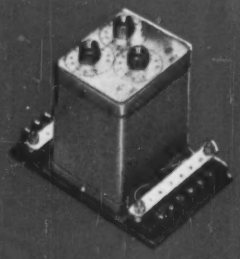
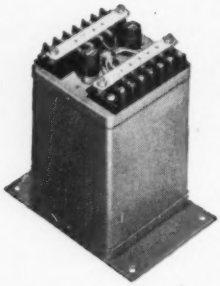


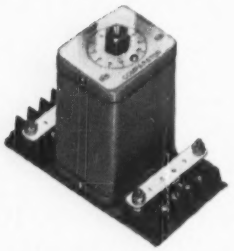


TIME REFERENCE Provides an adjustable linear timed reference signal for acceleration and deceleration of D-c motors. An adjustable timed emergency stop circuit is also included.

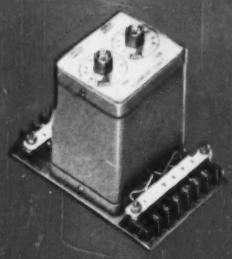


POWER SUPPLY Provides static power conversion of A-c line voltage into two channels of D-c, one to power other modules, the other is used as a regulated reference voltage. Available in several sizes.

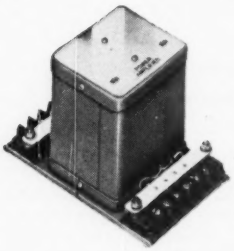
To simplify the design and assembly of the regulating systems for the Ultraflex Adjustable Speed Packaged Drive, Cutler-Hammer developed a complete line of compact regulator modules. These units provide a new economical, time-saving "building-block" approach to the fabrication of speed regulators, current regulators, etc. All modules are static, transistorized, and encapsulated for maximum reliability and space-saving compactness. No electronic tubes are used. Terminal-board wiring between modules, front-adjusting potentiometers, and easy-access fuses are plus features that speed assembly operation and maintenance. Write today for the new descriptive Bulletin ED102-Y-270. Cutler-Hammer Inc., Milwaukee 1, Wisconsin.



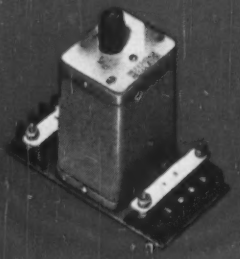
COMPARATOR This adjustable gain amplifier monitors a feedback signal, compares it with a reference input, then generates a corrective output error signal.



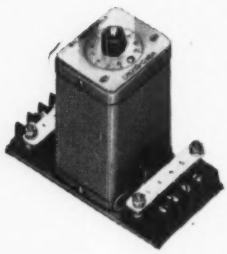
CURRENT LIMIT Designed to protect an armature circuit from over current, this module generates a corrective signal when the current reaches a pre-set limit. Current limit set point and taper are adjustable.



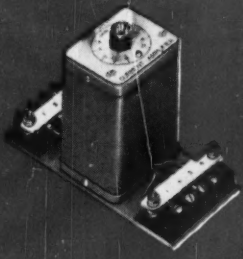
POWER AMPLIFIER Amplifies the output voltages from other modules when a stronger signal is required . . . frequently used as a pre-amp to magnetic amplifiers.



REFERENCE REGULATOR Converts an unregulated D-c input voltage into a regulated output suitable for use as a regulator reference voltage source.



CROSS-OVER Designed to progressively regulate both the armature voltage and shunt field excitation, the cross-over converts a single input into two output signals.



LOW LEVEL CURRENT AMPLIFIER Adjustable gain amplifier for use with low power signal sources such as self-generating photo cells.

CUTLER-HAMMER CONTROL

CUTLER-HAMMER

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The Trend of BUSINESS

Production: *Steel strike delays recovery until mid-1960*

Sales: *Retail trade to top 1958, set new record*

Inventories: *Early build-up will taper off in late 1960*

Failures: *October casualties take 2 per cent drop (page 13)*

THE YEAR 1960 will open with a post-strike upsurge in business activity, making up for the losses resulting from the extended steel dispute. After pre-strike peaks are matched, business expansion will be resumed and will continue through mid-year, barring a resumption of the walkout.

Business growth in the first half of 1960 will lack some of the vitality that marked the expansion of the first half of 1959.

The rates of increase in inventory accumulation, construction outlays, and Government spending will lag behind those set in pre-strike months, but the lag will be offset in part by steady gains in consumer spending and higher outlays for new plant and equipment. Gains in the latter, however, may be somewhat slowed by tight money conditions.

Before examining these and other specific aspects of the business picture, it is well to look at two broad measures of business activity—gross national product (the nation's total output of goods and services) and the Federal Reserve Board's index of industrial production.

After a decline to a seasonally adjusted annual rate of about $479 billion in the third quarter of this year from the record $485 billion of the previous three months, the gross national product will probably rise moderately in the final quarter of 1959. Consecutive gains will occur in each quarter of 1960, but the rate of increase will slacken in the second half.

For 1960 as a whole, the gross national product is likely to be somewhere between $510 and $515 billion.

A return of the index of industrial production to the record level of 155 (1947–49=100) set last June is likely this month, and steady gains are probable through mid-year. A level somewhere around 167 is likely in June 1960. This will be the new peak and will be followed by a gradual decline. However, because of differences in the composition of the two series and the expectation of price increases, this will not mean a downturn in the gross national product.

Although over-all industrial production declined more in the first three months of the steel strike than it did in the first three months of the recession, the effects of curtailed steel production have not been so great as was first thought. Up to now in the steel dispute, the index of industrial production has fallen about 8 points, compared with 150 for the index of steel output.

Total industrial production, slowed by the steel strike, won't reach its next peak until mid-1960.

The strike has set back production two or three months. Also, the slackening in the gross national product anticipated for the second quarter of 1960 is now expected in the third quarter. If the steel walkout is resumed early in the year, there will be another delay in the slackening of business growth.

Because their furnaces were idle longer than expected, steel companies now believe more time will be needed to get operations back to around 90 per cent of capacity. This rate of production will be achieved late this month, and an upsurge in new orders will hold output at that level or higher through the early months of 1960, barring, of course, a resumption of the strike.

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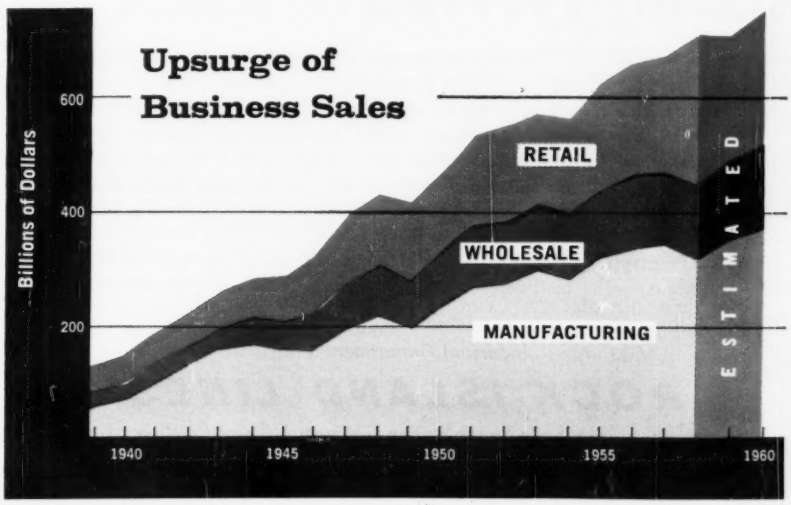

A NEW RECORD *in the total dollar value of business sales is certain for 1959 and another peak is likely in 1960. As in 1959, the most noticeable gains will be in household durables.*

Wayne C. Gault, Industrial Agent, Dallas, Texas

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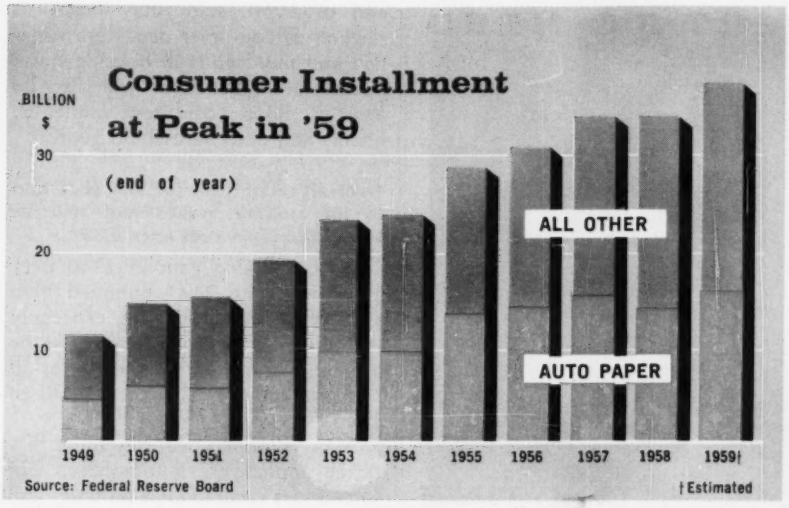


ALTHOUGH INSTALMENT CREDIT EXTENDED *has leveled off in recent months, total consumer instalment credit outstanding at the end of the year will be the highest on record.*

Despite steel shortages, which are likely to curtail auto output through the rest of the year, 1959 will wind up close to a 6-million-auto year.

Consumer response to the new compact cars is so favorable it's now quite probable that 1960 sales will be somewhere around 6.5 million—making it the best year since 1955.

Although foreign models will continue to make inroads in the U.S. market, gains will not be so noticeable as in the past few years.

The resumption of the upward movement of industrial output will bounce profits during the first half of 1960 back to the high levels set at the beginning of last year.

Later, profit margins will narrow as over-all business levels off and labor and production costs move up.

Extremely high profit levels and a generally rosy outlook for over-all business activity will encourage business men to continue to increase their spending for new plant and equipment throughout 1960. Part of the outlays planned for the last quarter of this year will be deferred until next year because of steel shortages.

Outlays for new plant and equipment will approach $36.5 billion in 1960.

However, it is possible that early in 1961 these expenditures will decline, prompting a definite downward movement in over-all business activity.

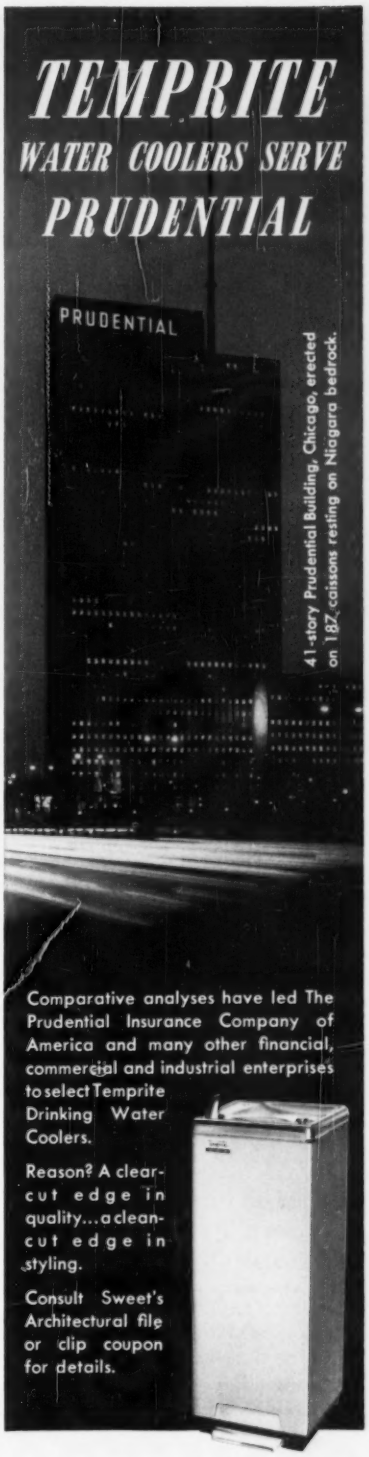
The anticipated rise in new plant and equipment expenditures has brightened the outlook for industrial construction in 1960. However, gains here and in commercial construction will be partially offset by declines in residential building.

Total construction outlays next year will be about $56 billion, compared with an estimated $55.3 billion this year.

The recent leveling off in new housing starts is likely to turn into an actual decline early in 1960. The level for the year as a whole will be about 1.22 million, or 10 per cent below the 1.35 million expected this year. The effects this will have, however, on total outlays for residential construction will be somewhat offset by a modest rise in spending for alterations and repairs. But because of higher construction costs, dollar expenditures will not accurately reflect the decline in housing starts. Much of the speculation on home building in 1960 is based on the assumption that mortgage loans will continue to be expensive and building costs will climb.

In contrast to the dip in interest in home building, consumer buying at retail will stay at high levels in 1960. The most noticeable gains will be in household durable goods.

The rise in consumer appliance purchases will be due to the replacement of old-model television sets, refrigerators, and laundry equipment and to the demand for new appliances that will follow this year's high level of home building. Toward the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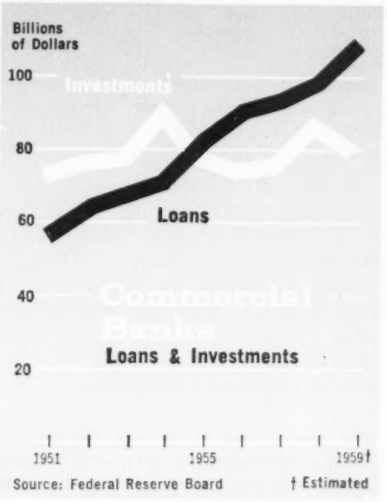
end of 1960, sales may begin to slacken as consumer needs are satisfied and the decline in housing starts begins to be felt. This will also be true of floor coverings, draperies, linens, and other household goods.

Over-all retail trade for 1959 is certain to hit another record and will be about 5 to 9 per cent over 1958.

A comparable gain in 1960 over 1959 is likely. The continued high level of consumer buying, especially in household durable goods, will be a prime force in holding over-all business activity at a record level in 1960.

Many shoppers will buy these big-ticket appliances, automobiles, and some other commodities on time, and



ESTIMATED LOANS OF COMMERCIAL BANKS *climbed as investments declined moderately in 1959.*

consumer credit outstanding will remain at peak levels.

Peak levels in personal income resulting from continued high wage levels and increases in the number of jobholders will account for the rise in consumer spending.

The number of employed will move up to new record levels in the first half of 1960, as industry's output and manpower requirements rise.

It is unlikely, however, that at any time in 1960 unemployment will decline to the 4 per cent level termed "full employment" by many labor economists. This will be due to further expansion of the labor force and gains in output per manhour.

The boost in retail trade will mean

higher wholesale and manufacturers' sales. Here, again, the most noticeable gains will be in household durable goods. Although volume at all three levels will slacken a bit in the second half of the year, the over-all value of business sales will be somewhere around $750 billion for 1960 as a whole, or up about 7 per cent from this year's estimated $705 billion.

Stock-sales ratios at all three levels will remain relatively low throughout the year, but business men will continue to be cautious in adding to their holdings. Inventory accumulation in the first half of 1960 will be substantial. Steel users building up their depleted supplies will account for much of the rise. Auto makers will also be anxious to replenish depleted dealers' inventories.

This inventory build-up, however, is not likely to be so great as it was in the first half of 1960.

Business men in most lines not involving steel products currently feel that their supplies are adequate and will be hesitant to add much to their holdings. Thus, about mid-year, when the rush for steel products has subsided, inventory accumulation will dip.

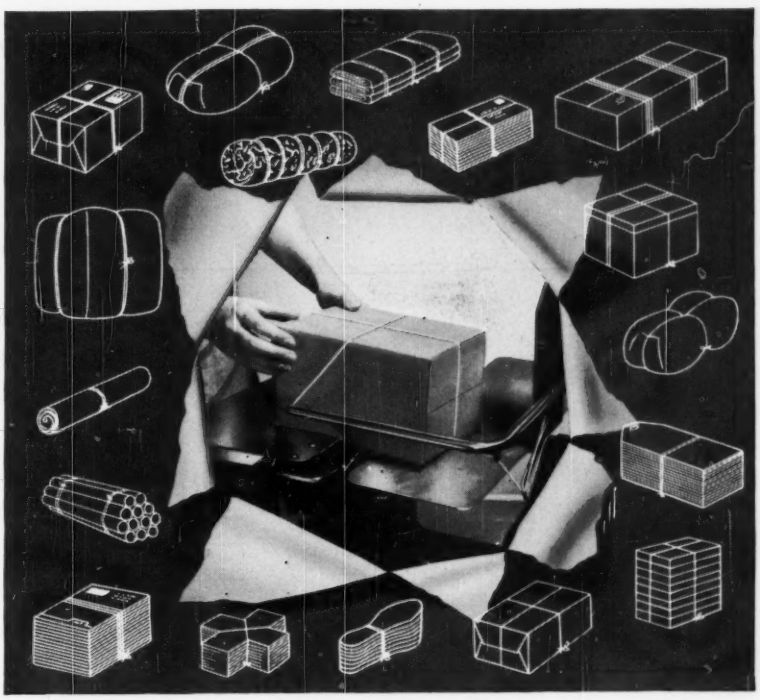
Continued high levels of buying will be a prime influence in boosting price levels.

To finance their plans for expansion of facilities, business men will not only use their retained earnings but will try to borrow from the commercial banks. This will put more money into circulation and could result in too much money chasing too few goods. The inflationary effects are likely to be controlled by tight money conditions.

The creeping variety of inflation is likely to recur next year.

Wholesale and consumer price increases will be minor. The consumer price index will edge up into new high ground throughout most of 1960. The increases will be primarily due to higher prices for services, apparel, and transportation. Changes in food prices will be less noticeable.

This report was prepared in the Business Economics Department, DUN & BRADSTREET, INC., by John W. Riday.



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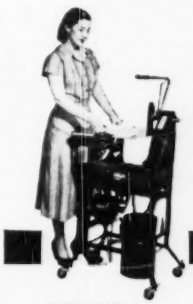

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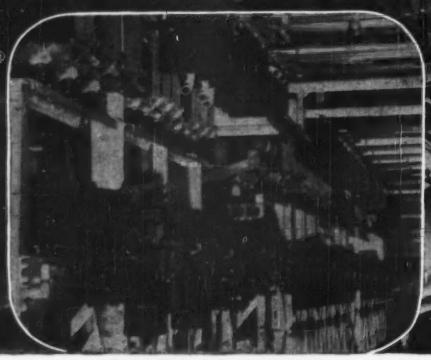

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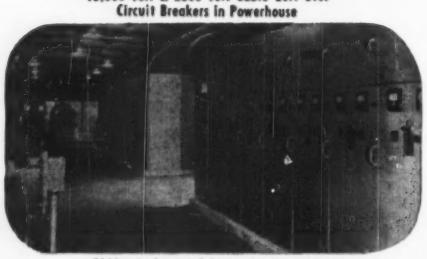

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Business Men's Expectations

First quarter 1960 prospects dimmed by steel dispute

Sales gains expected by two out of three

Profit picture brightest for durable makers

ALTHOUGH a sizable majority—65 per cent—think their sales in the first quarter of 1960 will be higher than a year earlier, the executives interviewed in DUN & BRADSTREET's latest poll of business men's expectations are less optimistic than they were in any of the four previous surveys. In the current poll, 30 per cent expect no change from the first quarter 1959, and 5 per cent foresee declines.

This decline in optimism is most likely due to uncertainties regarding the outcome of the steel dispute and its effects on business activity in the early months of 1960.

Sales hopes sag

The proportion of respondents anticipating sales increases in the latest poll is the lowest since the fourth quarter of 1958, when 55 per cent foresaw year-to-year gains, 33 per cent expected no change, and 12 per cent anticipated decreases. In the current survey, manufacturers of nondurables are most hopeful, and wholesalers are the least optimistic.

A little over half of the business men expect their profits in the first quarter to show year-to-year gains. Manufacturers of durables are the most hopeful. Among both wholesalers and retailers, the proportion expecting no change in profit levels is slightly higher than those foreseeing increases. In the previous survey, the percentage expecting gains was highest among retailers.

Inventories steady

Although business men anticipating expansion in their inventories during the first quarter of 1960 outnumber those expecting lower levels a little better than three to one, a majority of 63 per cent expect their holdings to remain at year-earlier levels. The largest proportion of "no changes" is found among retailers.

Manufacturers find new order prospects a little less bright than they did three months ago. Today, 58 per cent foresee gains, 38 per cent expect no change, and 4 per cent anticipate declines. As in the previous survey, the durable makers have higher hopes than the nondurable producers.

Twenty-nine per cent of all the business men expect to raise their prices over a year earlier, compared with 33 per cent in the preceding poll. A solid majority of 69 per cent, however, contemplate no change in prices. The percentage expecting increases is largest among durable manufacturers and wholesalers. Only 2 per cent or less of the respondents in each group look forward to price reductions.

Although the percentage of the durable manufacturers expecting to add to their workforces is noticeably higher than among other respondents, 71 per cent in this group foresee no year-to-year change. Among both the wholesalers and retailers, 87 per cent anticipate no change in their payrolls, 10 per cent expect gains, and 3 per cent expect reductions.

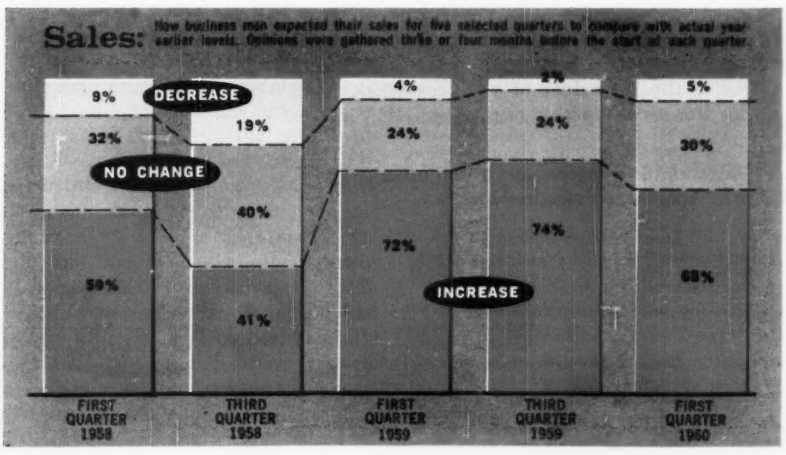
It should be remembered that this survey is not a forecast but an indication of the views held by a representative group of business men when the survey was made late in October.

—JOHN W. RIDAY
Business Economics Department

First-Quarter Outlook

COMPARED WITH YEAR-EARLIER OPINIONS

Per cent in 1959 Up	Same	Down		Per cent in 1960 Up	Same	Down
			ALL CONCERNS			
72	24	4	Sales	65	30	5
49	45	6	Profits	51	44	5
24	72	4	Prices	29	69	2
26	62	12	Inventories	28	63	9
13	81	6	Employment	16	81	3
			MANUFACTURERS			
72	23	5	Sales	69	26	5
53	40	7	Profits	56	39	5
21	74	5	Prices	27	71	2
27	60	13	Inventories	30	61	9
18	76	6	Employment	22	75	3
65	31	4	New Orders	58	38	4
			WHOLESALERS			
70	27	3	Sales	61	34	5
47	48	5	Profits	45	48	7
29	67	4	Prices	32	66	2
27	62	11	Inventories	27	64	9
10	85	5	Employment	10	87	3
			RETAILERS			
74	21	5	Sales	62	34	4
43	53	4	Profits	46	49	5
19	77	4	Prices	27	71	2
21	66	13	Inventories	24	69	7
8	86	6	Employment	10	87	3



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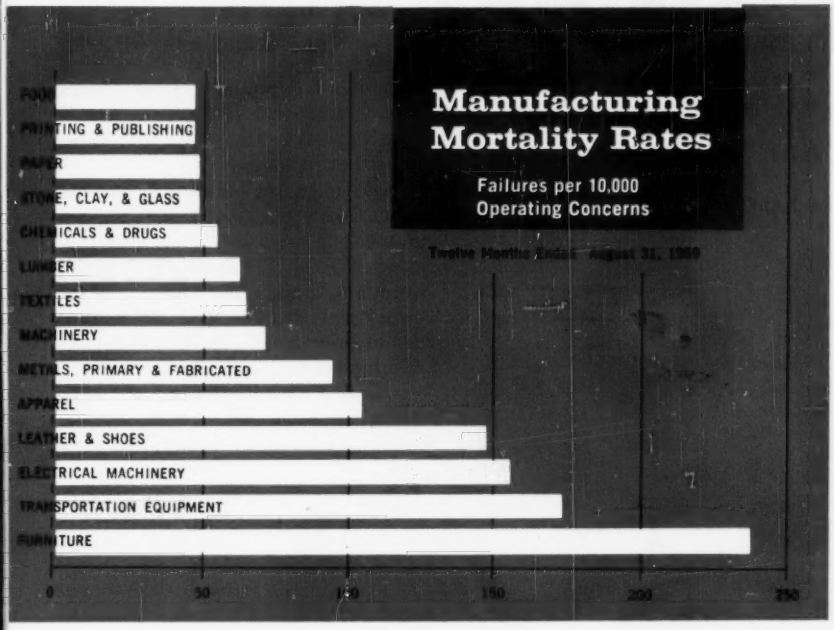
Business Failures

Casualties dip slightly in October
Liabilities decline by 8 per cent



BUSINESS failures in October dipped 2 per cent to 1,125 and fell below last year's level for the first time in three months. However, despite the 11 per cent decline from October 1958, casualties remained slightly above the 1957 level.

Concerns were failing at a rate of 50.5 per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*. This casualty rate—down considerably from 58 in the preceding month and 57 a year ago—was the least severe for any October since 1955.

Dollar liabilities declined more appreciably than the number of failures, falling 8 per cent from September to $50.4 million—the smallest volume since July. However, the month-to-month downturn did not drop liabilities below their 1958 levels. Six failures in the million-dollar class occurred this October, as against only one a year ago, and thus pushed aggregate losses 7 per cent above their year-earlier total.

Retail trade and construction had lighter tolls during October, but mild increases continued in other types of operations. Apparel and general merchandise casualties, down almost one-half from September, hit their lowest level in four years. There also was a 27 per cent drop among food store failures. Running counter to these declines, mortality in the automotive group rose a third to the highest toll in a year.

continued on page 14

THE FAILURE RECORD

	Oct. 1959	Sept. 1959	Oct. 1958	% Chg. †
DUN'S FAILURE INDEX*				
Unadjusted	48.0	50.8	54.5	—12
Adjusted, seasonally	50.5	58.4	57.4	—12
NUMBER OF FAILURES	1125	1144	1271	—11
NUMBER BY SIZE OF DEBT				
Under $5,000	144	161	232	—38
$5,000–$25,000	552	539	586	— 6
$25,000–$100,000	348	326	360	— 3
Over $100,000	81	118	93	—13
NUMBER BY INDUSTRY GROUPS				
Manufacturing	221	192	215	+ 3
Wholesale trade	106	105	124	—15
Retail trade	532	563	657	—19
Construction	164	191	176	— 7
Commercial service	102	93	99	+ 3
LIABILITIES (*in thousands*)				
CURRENT	$50376	$54736	$47268	+ 7
TOTAL	51336	54921	47298	+ 9

*Apparent annual failures per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*.

†Percent change.

In this record, a "failure" occurs when a concern is involved in a court proceeding or in a voluntary action likely to end in a loss to creditors. "Current liabilities" here include obligations held by banks, officers, affiliated and supply companies, or the governments; they do not include long-term publicly held obligations.

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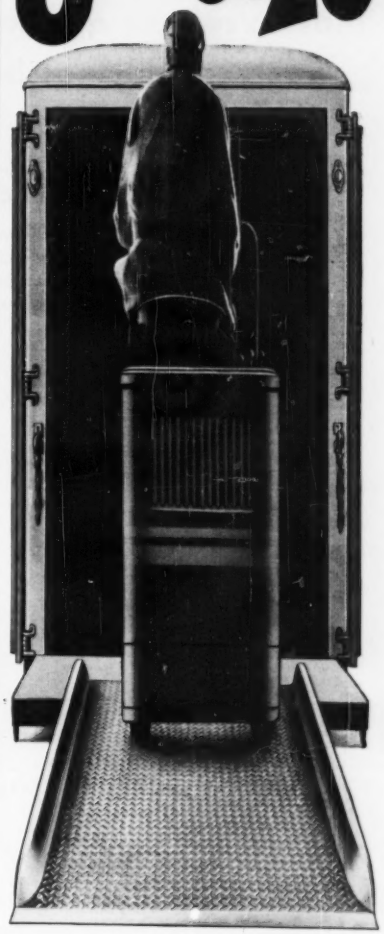

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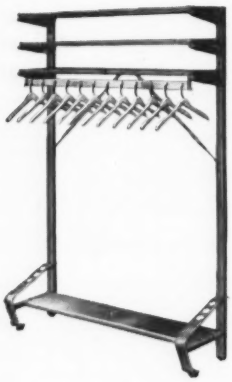

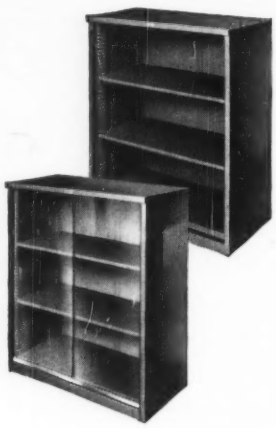

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Among manufacturers, casualties were the heaviest since July of last year. The lumber industry's toll climbed noticeably. In the steel industry, the number of failing concerns doubled those a month earlier, and liabilities bulked almost four times as large. Both manufacturing and service casualties edged above last year. But sharp declines of 15 to 19 per cent prevailed in the trades. In retailing, tolls dipped below a year ago in all lines except building materials and appliances, where they held even.

Regional trends between September and October were mixed. Five regions reported declines: the New England, South Atlantic, East South Central, Mountain, and Pacific States. But increases persisted in the other four regions, with the Middle Atlantic States suffering the most casualties since June. For the first time in four months, tolls rose in the large cities, particularly in Los Angeles, San Francisco, and New York.

FAILURES BY DIVISIONS OF INDUSTRY

	Cumulative total (January—October)		Liabilities in million $ (January—October)	
	1959	1958	1959	1958
MINING, MANUFACTURING..	2,039	2,305	166.6	207.7
Mining—coal, oil, misc...	71	69	7.0	12.1
Food and kindred products	157	171	13.0	15.8
Textile products, apparel.	329	437	18.3	29.5
Lumber, lumber products.	418	450	21.4	28.3
Paper, printing, publishing	139	159	8.0	7.8
Chemicals, allied products	51	53	3.8	2.9
Leather, leather products.	63	86	6.4	12.2
Stone, clay, glass products	45	56	4.1	9.8
Iron, steel products.....	119	148	11.6	14.9
Machinery.....	201	242	33.0	23.7
Transportation equipment	85	61	7.2	14.2
Miscellaneous.....	361	373	32.7	36.5
WHOLESALE TRADE.....	1,144	1,205	67.9	66.1
Food and farm products.	235	284	20.0	17.2
Apparel.....	35	54	1.5	2.6
Drygoods.....	31	42	1.1	1.2
Lumber,bldg.mats.,hdwre.	124	156	8.3	11.3
Chemicals and drugs.....	54	40	1.6	.8
Motor vehicles, equipment	59	55	2.8	1.7
Miscellaneous.....	606	574	32.6	31.3
RETAIL TRADE.....	5,875	6,449	198.1	194.3
Food and liquor.....	959	947	26.3	22.0
General merchandise....	253	250	15.3	9.9
Apparel and accessories..	871	1,011	35.0	26.7
Furniture, furnishings....	712	921	31.1	38.5
Lumber,bldg.mats.,hdwre.	381	435	12.9	13.7
Automotive group.....	839	926	28.8	33.6
Eating, drinking places...	1,135	1,216	31.2	32.5
Drug stores.....	93	142	2.5	3.6
Miscellaneous.....	632	601	23.0	13.8
CONSTRUCTION.....	1,715	1,810	99.3	95.6
General bldg. contractors.	606	727	55.7	50.7
Building subcontractors..	976	982	34.5	34.2
Other contractors.....	133	101	9.1	10.7
COMMERCIAL SERVICE.....	1,070	992	48.1	50.8
TOTAL UNITED STATES.....11,843		12,761	580.0	614.5

Liabilities are rounded to the nearest million; they do not necessarily add up to totals.

This report was prepared in the Business Economics Department by Rowena Wyant.

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WASHINGTON Business Front

JOSEPH R. SLEVIN

» *Pep talks by top Administration officials are aimed at persuading U.S. manufacturers to go after foreign customers.*

» *Republicans gleefully expect the business boom, bogged down by the steel strike, to be in full swing at election time.*

» *Treasury Secretary Anderson and Presidential Adviser Saulnier are taking bows for their anti-inflation efforts.*

WASHINGTON, D.C. — American manufacturers are about to feel the heat of an Administration-backed export drive. The United States needs more dollars than it has been earning from its foreign transactions, and the Administration thinks that a rise in export volume is the most promising way to raise the necessary funds.

Commerce Department officials are taking the lead in the new campaign, but it's being pressed throughout the Administration. Commerce Secretary Frederick H. Mueller carried the word to his influential 100-man Business Advisory Council at its fall meeting in Pebble Beach, Calif. Other top Commerce Department spokesmen are spreading the gospel in one business gathering after another.

Learning new tricks

It isn't going to be easy to get American manufacturers to make special efforts to win foreign customers. Some companies customarily sell large quantities of goods in overseas markets, but many don't, and they will be reluctant to change their habits. The United States is faced with much the same problem that confronted Great Britain when it was trying to boost its exports earlier in this decade. Many American companies — like their British counterparts—can sell all they can produce at home and, consequently, don't want to search out new overseas markets.

There's another big probem, too. A number of American manufacturers haven't bothered to find out what other countries want. Mueller says American companies are going to have to study foreign requirements and design products that appeal to potential overseas buyers if the Administration drive is to succeed. That, too, is an echo of the British experience. It seems only yesterday that British leaders were telling manufacturers they wouldn't dent the American market until they abandoned such practices as shipping black cars to gay, color-loving California.

The Administration is stressing the burgeoning export campaign, because large exports are the only way to achieve a quick jump in overseas earnings. Other measures that are being taken will provide relatively less help and will take a long time to become effective.

New strings attached

A prime example is the "Buy American" policy that the Administration imposed on the Development Loan Fund at the insistence of Treasury Secretary Robert B. Anderson. Underdeveloped countries that borrow from the DLF henceforth will be required to purchase American goods with their loans. Another case in point is a continuing Administration push to encourage Britain, West Germany, Japan, and others to do more for the underdeveloped countries so we can do less.

American exports currently are rising, but it is not yet clear that they are climbing rapidly enough. They slumped to $16.3 billion in recession-hit 1958 from a record $19.5 billion in 1957. They are increasing again now, but nobody expects the 1957 peak to be regained any time soon.

The immediate cause of the Administration desire to boost United States earnings is a widely discussed balance-of-payments deficit that has made it possible for foreign countries to add $15 billion to their gold and dollar holdings through transactions with the United States since 1949. The monetary outflow hit a high of $3.4 billion in 1958 and is to rise to a new peak of about $4 billion this year.

It's a particularly worrisome trend to the Administration, for foreign countries take payment partly in gold, and the gold loss has cut the United States reserve to about $19.5 billion. Gold payments to overseas creditors totaled $2.3 billion in 1958 and amounted to $1 billion during the first ten months of 1959.

Balance-of-payments headache

The United States has been running a persistent payments deficit despite the fact that its exports consistently have exceeded its imports. The resulting trade surplus has been more than wiped out by a heavy vol-

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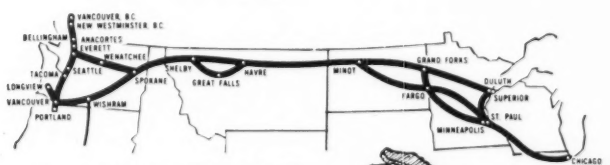

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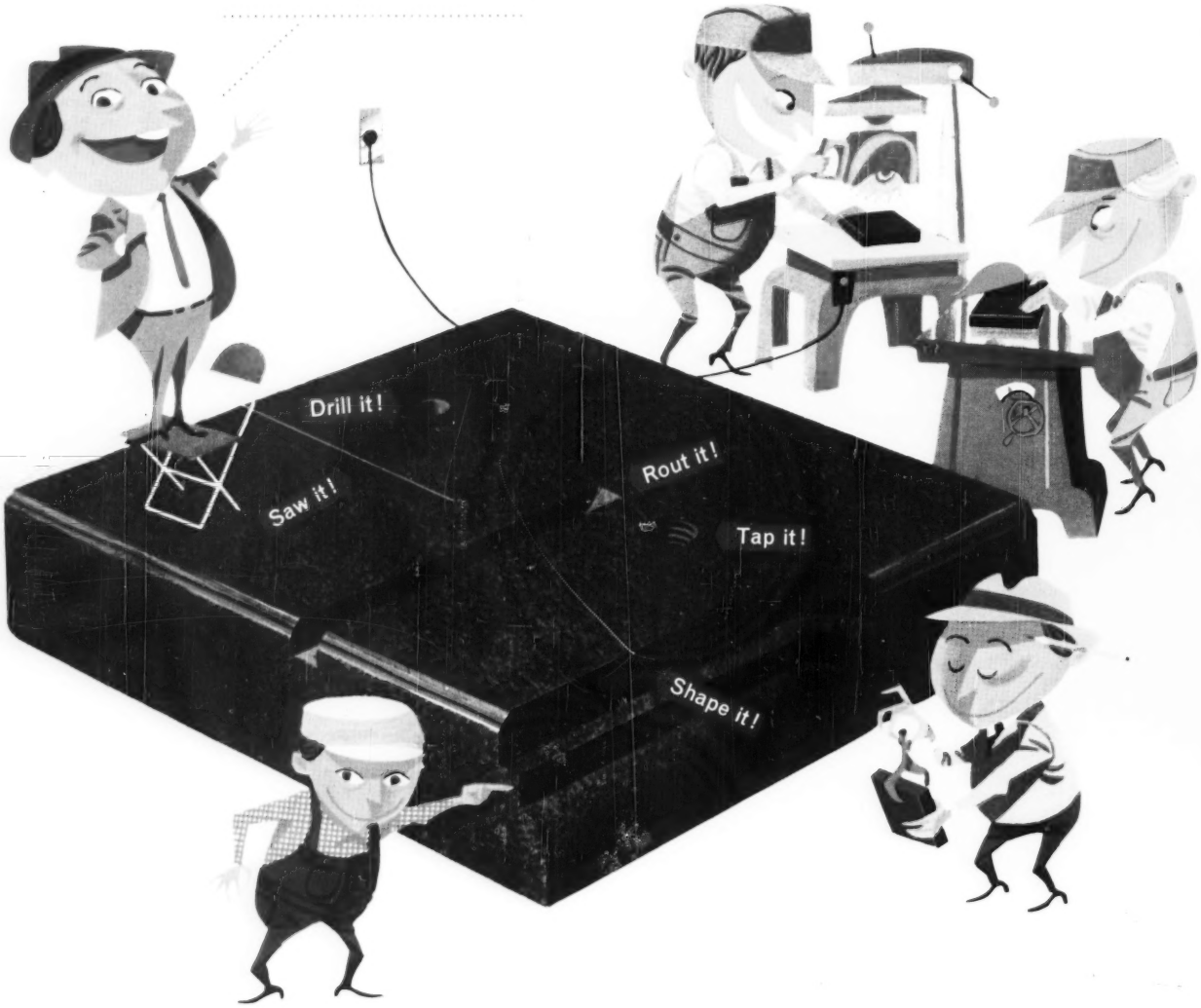

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ume of private investments in overseas enterprises, tourist expenditures, payments for a wide variety of services, military and economic aid grants, and Government loan programs.

The Administration expects its export drive to be bolstered by a continuing removal of foreign trade curbs that discriminate against American goods. The United States has been pressing vigorously for the elimination of discriminatory restrictions for the better part of a year, and its insistent campaign is making notable progress. Government experts figure that wiping out all discriminatory curbs on American goods could increase United States exports by as much as $1 billion annually.

The freer movement of goods throughout the non-communist world is going hand in hand with the removal of hampering restrictions on financial transactions. Currency flows from one country to another as it has not done since the 1920's, and it is widely expected that the leading countries of Western Europe will make their currencies freely convertible some time next year.

The growing freedom is exposing the domestic economies of the non-communist countries to outside competitive forces. Their economic and financial systems are becoming increasingly interdependent. A country that allows inflation to get out of hand soon will find that its products are being priced out of other markets and out of its own by less expensive goods from countries that maintain price stability.

This has not happened in the United States, despite a good deal of talk to the contrary. But it could happen if another round of inflationary price advances gets under way.

Currency competition

Competition is affecting money, too. It is going into the centers that pay the highest rates. The Swiss invested heavily in "magic fives" when the Treasury offered the 5 per cent notes this fall. Private American bankers are finding it harder to lend to European customers. Interest rates in Europe have been a little lower than they have been here, and the Europeans have found that they can obtain loans more cheaply at home than in the United States.

They are happy to borrow in Europe because the recent relaxation of

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Your Masonite fabricator will deliver Benelex to your exact specifications—no further tooling or finishing required.

He has complete facilities for drilling, tapping, shaping, routing—even turning if you wish.

Ask your fabricator to show you where this versatile product can save the most for you. He'll be glad to help you work Benelex into your picture.

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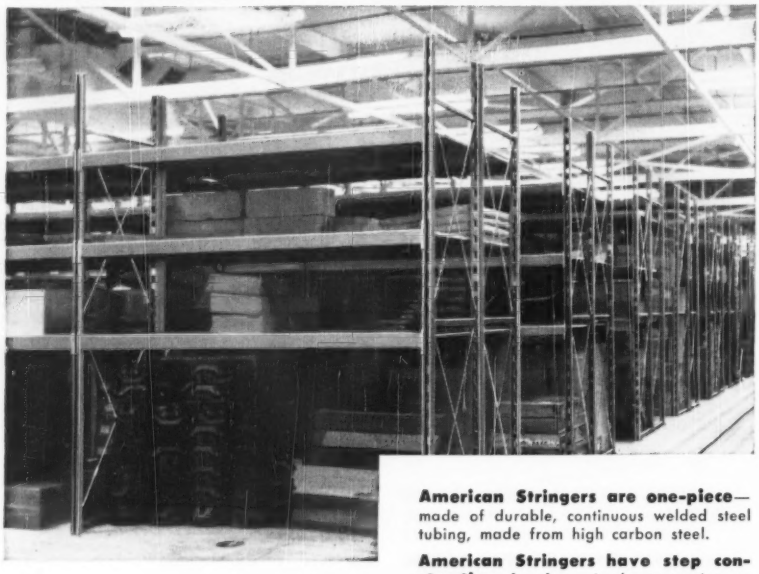
more for your dollar than meets the eye

American

Slide-n-Lock adjustable

STORAGE RACKS

cut labor costs and increase storage space



Left—smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Stringers raise and lower like a window. Right—note rigid connection when stringer is "locked" to post.

No Bolts! No Welding!

American Stringers are one-piece—made of durable, continuous welded steel tubing, made from high carbon steel.

American Stringers have step construction for fast, simple conversion to decking — step is 1⅝" deep — thickness of finished 2" lumber.

American Posts are rugged — made from extra heavy gage steel — roll formed by special tooling.

American has positive double-wedging lock—safe-t-pin gives positive security against unhooking stringers.

American has smooth, aisle-side construction — no protrusions of any kind to tear clothes or create a safety hazard.

American has higher safety factors — 2.25 to 1 — for greater protection to truck operators and merchandise.

American Racks are easy to erect—no costly bolting—all parts hook into place.

American Racks are easy to adjust—all stringers can be moved independently of any other part.

American Upright Frames are cross braced against sway — turnbuckles provide ready take-up for uneven floors.

AMERICAN METAL PRODUCTS COMPANY

STORAGE RACK DIVISION

5969 LINSDALE AVE. amp DETROIT 4, MICHIGAN

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario

exchange restrictions has made it easy to shift from one currency to another and ultimately into dollars—if that is the currency they want to spend. The United States no longer is the sole country to which borrowers can turn for freely transferable loan funds.

Good Timing

Republican politicians see one distinctly cheerful side to the costly 116-day steel strike. The production delays it has caused almost guarantee that the business boom will last through 1960 and will be bulling along at a strong clip during the Presidential election month of November. High business activity customarily spells votes for the party in control of the White House, and that means the Republicans.

Unemployment will decline as business activity rises, with the result that the jobless rate is expected to drop to 4.2 per cent—just a shade above the full-employment level of 4 per cent. The predicted rate would translate into unemployment of less than 3 million next fall.

Top Inflation Fighters

Treasury Secretary Anderson is the man who sold President Eisenhower on the importance of balancing the budget, but Council of Economic Advisers Chairman Raymond J. Saulnier is the White House aide who got the Chief Executive to oppose big wage increases as inflationary. Both are being highly praised by the financial officials of other countries.

Anderson moved into action after the October 1958 annual meeting of the World Bank and the International Monetary Fund when other finance ministers and central bank heads voiced concern about the inflationary impact of the $12.5 billion United States budget deficit.

Saulnier started earlier. He warned against outsized wage increases in the January 1958 Presidential Economic Report. Last January, he fired the opening gun in the Administration's drive to bar an inflationary steel wage boost when he pinpointed an excessive wage increase as the greatest single threat to price stability. The Presidential adviser is more worried about a wage-price inflationary spiral than about a budget deficit. So are many other economists. END

Fouls up my department every time!

Does a mailing bring on a crisis in your company? With secretaries and bookkeepers drafted to fold and stuff letters into envelopes—while office schedules are shot, work falls behind, overtime piles up, and department heads gripe? . . . Then the new Pitney-Bowes Model 3300-FH will be good news for you!

The 3300-FH is a small, low-cost, *combined folding and inserting machine* —that can fold and stuff into envelopes 500 single sheets in eight minutes. Additional enclosures are made by more runs through the machine.

The 3300-FH was designed for the small office. It handles letters, invoices, statements, leaflets, cards, even stapled sheets. It can be set without tools in less than a minute and operated by anybody. The inserting unit may be used alone, or with any PB folding machine.

It speeds up mailings, cuts their cost, prevents disruption of office schedules. It is a great convenience, and a real economy in any office—even if used only a few times a year.

The nearest Pitney-Bowes office will be glad to give you all the details. Or send for free illustrated booklet and case studies.

The larger Model 3110 Inserting Machine, with up to six stations, stuffs as many as six enclosures at speeds up to 6,000 an hour. And can be attached to a PB postage meter mailing machine.

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Made by the originator of the postage meter . . .
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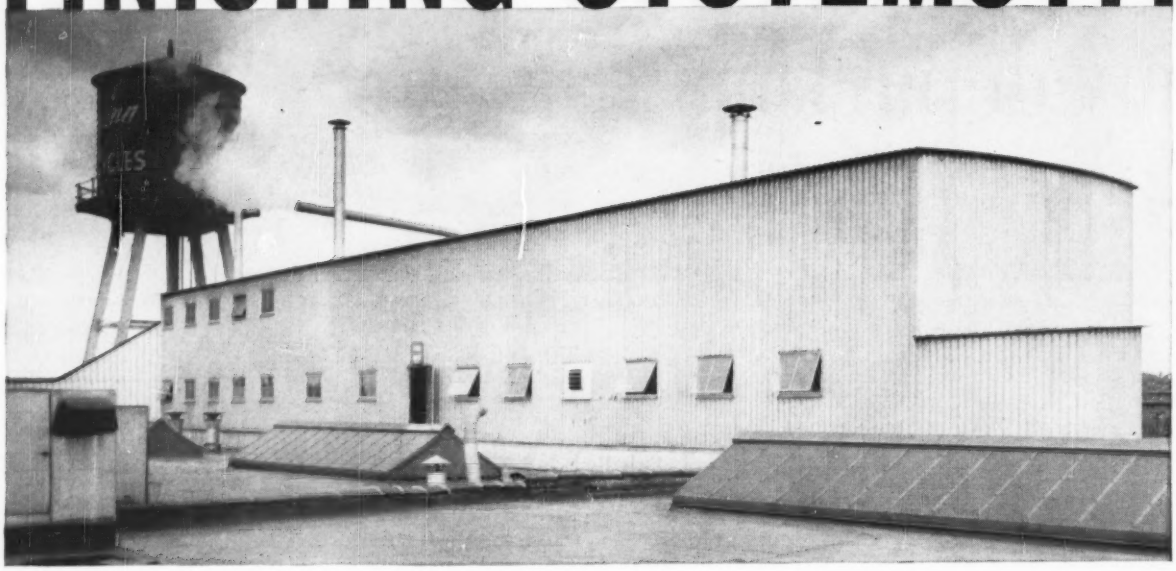
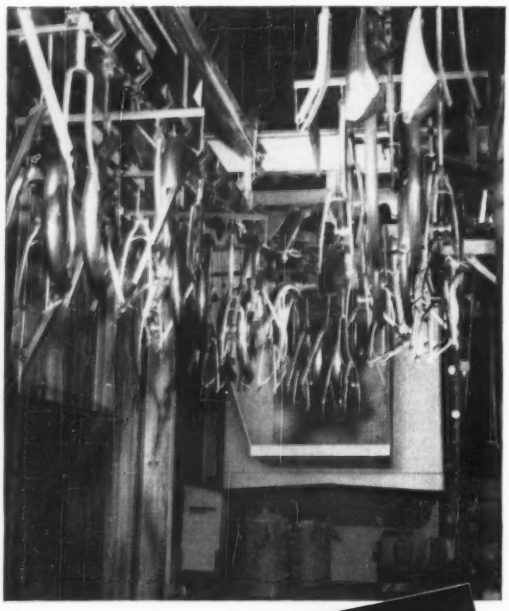


Self-Housed Equipment Installed on Roof Saves Over 10,000 Sq. Ft. of Manufacturing Floor Space!



Over a period of twenty-three years the Mahon company has worked in close cooperation with Arnold, Schwinn & Co., manufacturers of famous Schwinn Bicycles, in developing finishing equipment which now produces what is acknowledged the highest quality finish, the most durable finish, and the finest appearing finish in the industry.

The three Finishing Systems installed by Mahon in the past twenty-three years have saved Arnold, Schwinn & Co. over 10,000 Sq. Ft. of valuable manufacturing floor space inside the company's two-story plant. In the first Finishing System, installed in **1936**, only the Spray Booths were located inside the plant; other units, including two Finish Baking Ovens together with Heating Equipment, Recirculating Fans, etc., were housed on the roof.

In **1950**, another complete self-housed Prime-Coat Finishing System, shown above, was installed in its entirety on the roof—the design being a two-level arrangement with Dry-Off Oven, Finish Baking Oven and Heating Equipment Room on the upper level. This System handles Cleaning, Rust Proofing and Prime Coating of all parts produced which receive their 2nd and 3rd or final coat in the other two Finishing Systems.

In **1956**, a third Finishing System was installed with 2nd Coat Finish Baking Oven, Cooling Area, 3rd or Final Coat Finish Baking Oven and Heating Equipment Room located on the Roof. Electrostatic Spray Booths for this System were located on the second floor of the plant directly below.

When you consider buying a new finishing system, or any unit of finishing or processing equipment, you, too, will want to discuss methods, equipment requirements and possible production layouts with Mahon engineers . . . you'll find them better qualified to advise you, and better qualified to do the initial planning and engineering which plays such an important role in the ultimate operating efficiency of specially designed equipment of this type.

See Sweet's Plant Engineering File for Information and Representative Installations, or Write for Catalogue A-660

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Sales-Engineering Offices in Detroit, New York, Chicago, Los Angeles and San Francisco

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MAHON

Voice of Industry

The World Outlook for Consumer Goods
Can We Compete with Foreign Steel?
Winning the War for World Markets
Competition: Good for the Other Fellow?

WALTER L. LINGLE, JR., *executive vice president, Procter & Gamble Company*

Bigger Markets Overseas

As a result of our international experience, we have come to certain conclusions about the outlook for the international sale of low-cost consumer goods.

The free world population outside the United States is about 1,601,515,000. This population *as of now* offers an opportunity for a potential volume of sales for consumer goods about one and a half times as great as in the United States, and this market opportunity is likely to grow on a percentage basis more rapidly than within the United States.

Our return on investment in countries where we have been established for several years is just about equal, on the average, to the return in the United States.

Increased sophistication of overseas consumers is making it necessary to tailor products to their local conditions. There has been constant upgrading of demand for quality in consumer goods.

Political and financial pressures will develop to make it necessary to produce the product locally, even though the product can be produced more economically in the United States or elsewhere and exported. However, substantial export of consumer goods from larger countries to smaller countries is possible.

Government controls and restrictions on the production and marketing of consumer goods by American companies in foreign countries are likely to continue to increase.

Most American companies will find the bottleneck to more rapid overseas development of a consumer goods business will be their capacity to train and develop adequate management personnel.

From a speech before the National Industrial Conference Board.

T. F. OLT, *vice president—research, Armco Steel Corp.*

Threat from Abroad

World steel production has more than doubled in the postwar period, rising from 150 million in 1947 to an annual rate of 346 million net tons for 1959 (based on six months). During this interval, output in the United States, the world's largest single producer, has increased only a third.

In December 1958, the United

the Right Combination...

QUALITY

"the CHALLENGER"
$397.50 complete
1500 lb. capacity
Model 1056—Battery operated

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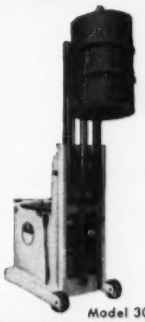

"the DRUM HANDLER"
$890.00 complete
1000 lb. capacity
Model 3062—Battery operated

SELECTION

"the TELESCOPIC 99"
$699.00 complete
1000 lb. capacity
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Hydraulic Handling for *EVERY* Department

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SURVEY DISCLOSES INDUSTRY'S NO. 3 SKIN HYGIENE PROBLEM: WASTE SOAP

Here's The Answer To It From SBS

The most difficult three industrial skin hygiene problems, as rated by 2,177 major plants recently surveyed, are:

1. *SKIN DISEASE*
2. *REMOVAL OF TOUGH SOILS*
3. *WASTE OF SOAPS*

Closely associated with the actual problem of skin disease is the costly waste of soaps in *all* plant areas. Liquid soaps run off hands too easily, other types melt or spill. Where wasted soap accumulates, extra housekeeping expenses are involved, sub-sanitary conditions exist and worker dissatisfaction mounts. Often the combined cost of soap waste and resulting maintenance can add up to more than the original cost of the soap supply. Small wonder industry rates it as such a problem!

What's the answer to it? Ask an SBS representative to show you "Operation Pinpoint", 10 minute sound slide digest of the national survey, and you'll see how a *planned corrective program* can solve all these skin hygiene problems. Since SBS produces a *complete range of cleansers*, he can suggest the right cleanser for each job. For the safest, savingest answer to skin disease, tough soils, and soap waste, write today . . . Dept. 2L.

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sugar beet products co.

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CANADA: Chemical By-Products, Ltd., Toronto, Ontario

States passed from a steel exporter to an importer on balance. In the first six months of 1959, U.S. imports totaled 1,912,000 tons—more than three times the imports for the comparable period in 1958. Imports of steel mill products exceeded exports by more than 83.5 per cent in the first half of 1959. This represents a shift of nearly 4 million annual tons of steel products—equivalent to the loss of 25,000 steel workers' jobs.

The problems we face in the steel industry parallel those being experienced in other industries subject to intense foreign price competition. Our competitors overseas, having been provided with sufficient foreign aid, are well equipped with the most modern equipment and low-cost manpower.

We have already costed ourselves out of the foreign markets in most of the products we manufacture and are having increasing difficulty in competing with foreign imports.

From a speech before the Industrial Research Institute.

RAY R. EPPERT, *president, Burroughs Corp.*

Negatives and Positives

Within our grasp we have the opportunity to plan and execute a marketing revolution unparalleled in world history. We have entered an era of adventure, when marketing should score dazzling successes through the variety of available goods, the expansion of purchasing power, and the respectability of spending. But if we are to capitalize on the opportunity fully we will have to turn a lot of negatives into positives.

Consumption in this country has begun to lag—not in the absolute, but in relation to the growth of consumption throughout the rest of the world. And, despite the tremendous growth in our gross national product between 1950 and 1958, total cor-

porate profits decreased 21 per cent. The most effective antidote for shrinking profits is increased revenue. The success of most business enterprises will be determined by the growth of the incoming order index.

Another sobering aspect of marketing's mission is that economic war has been declared on us by the Soviet Union. Our only sensible strategy is to improve the economic strength of the non-Soviet world, to accelerate our economic growth rate, to bind together the nations of the free world with strong trade links, and to pursue a vigorous policy of maximum international commerce.

From a speech before the National Industrial Conference Board.

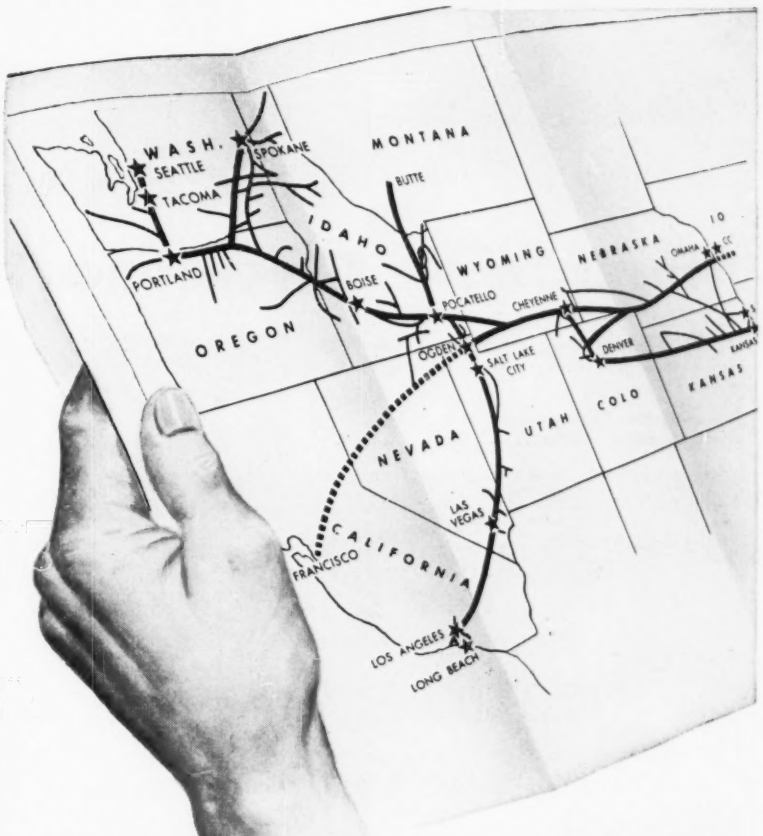
THOMAS S. LAMONT, *vice chairman, Morgan Guaranty Trust of New York.*

Let George Compete

Most business men are quick to proclaim their belief in competition as an essential element of our free enterprise system. But is it possible that in some of us there lurks a feeling that competition, while of undoubted benefit to the nation, is especially good if the other fellow feels it, not so good if we feel it? Sometimes it almost seems as though the most active competition in America is the competition for Government protection against competition.

Too often the business man seems to wish a genteel sort of competition. If domestic or foreign competitors take off their gloves and competition becomes tough, our genteel business man rushes off to his friends in Congress to get a subsidy of some sort. Of course, the more its help is sought by business, the greater becomes the role played by Government in the management of American business. You can't have your cake and eat it.

From a speech before the Savings Banks' Association of Connecticut.



WHEN YOU SEEK A NEW SITE ALONG THESE ROUTES IN THE WEST

As you study your opportunities in the West, and determine the general area for your new site, we welcome your inquiry on industrial locations.

Union Pacific has shared in the industrial growth of the West since rails first opened the territory.

Transportation is our business. Our experience with a large variety of industries and over a vast 11-state territory should be helpful to you as you plan your new location. A site strategically located for transportation may mean many advantages for your business.

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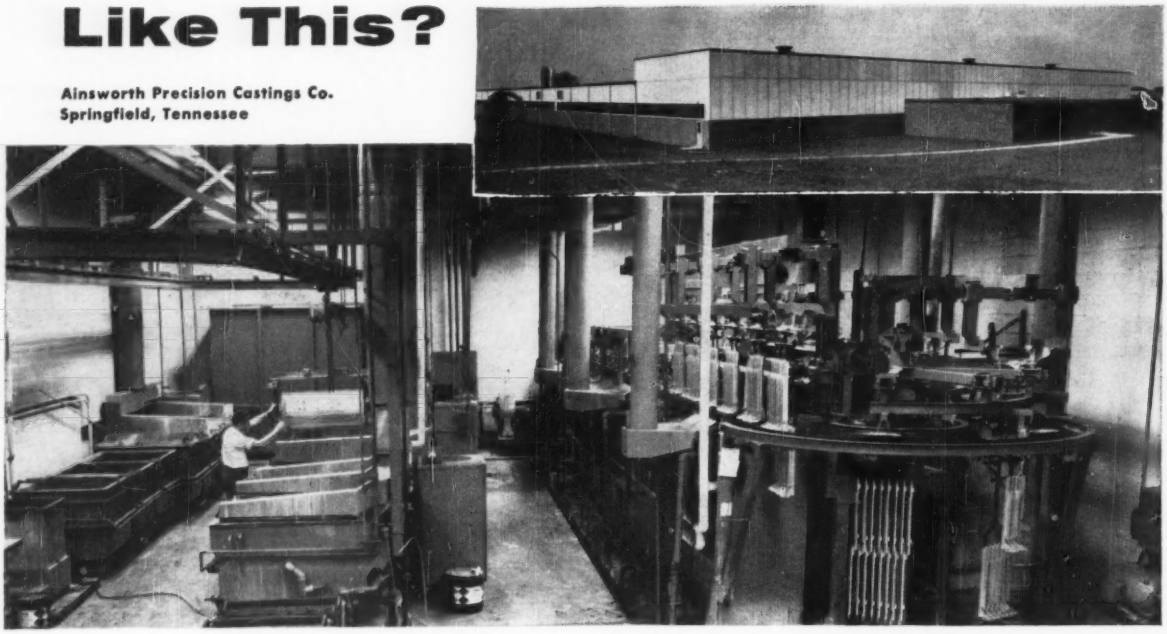
LOOK FOR THE DIAMONDS—SIGN OF FINISHING QUALITY

Can You Use Process Engineering Service Like This?

Ainsworth Precision Castings Co.
Springfield, Tennessee



Complete system for Zinc plating and Iridite—designed, fabricated, installed and serviced by Allied Research to turn out auto window channels, gear shift and directional signal components.

Here's what Allied Research did to give Ainsworth "Turn Key" service:

1. Planned the entire layout and operational details.
2. Recommended and presented complete cost analysis of processes, equipment and supplies necessary . . . and furnished them.
3. Reconditioned existing equipment and integrated it with new equipment to make the installation both economical and efficient.
4. Planned and constructed a complete waste disposal system for treating cyanide wastes.
5. Installed 14-station zinc-IRIDITE automatic, 12-station zinc barrel line, and a still line.
6. Set up procedures for regular qualitative testing of coatings and solutions.
7. Executed an extensive training program for operators.
8. Entire operation completed ahead of schedule even though overall construction was badly delayed by weather . . . production personnel merely turned the key, and started operations.

PROCESS ENGINEERING SERVICE can help you. Whether you require a single piece of equipment or a complete system. Write for complete details. Let us quote on your plans for renovation or new installation . . . call your Allied Field Engineer. He's listed in the yellow pages under "Plating Supplies".

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Hats off to the profit makers!

Maintenance departments are major profit makers. Here's why:

A 10% reduction in maintenance costs can result in a *4% jump in profits in the average plant*—according to latest Commerce Department figures.

Increasing numbers of cost-conscious maintenance men are adopting Organized Lubrication as one of the proven ways to reduce costs. As Texaco Lubrication Engineers have demonstrated time and again, an Organized Lubrication program can *cut direct maintenance costs as much as 10%!* (Other benefits: more dependable production, reduced lube inventory, simplified purchasing.)

Managers throughout the U.S. who have installed and evaluated Organized Lubrication programs can testify to the profit gained.

Texaco Lubrication Engineers can offer help and helpful material to start an Organized Lubrication program in your plant. Why don't you look into it? Call our expert—or write for a copy of our book: "Organized Lubrication . . . Major Cost Control Factor."

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LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

The deck is cleared for action

IN THIS PRODUCTION–DESIGNED BUTLER BUILDING

Up out of the way are heating and ventilating fixtures, lights, bus ducts and cranes. All floor space is reserved for employees, their machines and materials handling equipment. This is a plant geared for production.

This is a Butler building–all 222,000 square feet of it. It belongs to Flick-Reedy Corp., Chicago, whose Miller Fluid Power division manufactures air and hydraulic cylinders. Frank Flick, president, says the working conditions in this building promote employee comfort, safety and convenience. This spells high morale, a key factor in quality production.

Flat roof structures have no such natural accommodation for fixtures, which swoop low overhead, or occupy important floor space. Nor do such buildings have any place for stale air to escape. It hangs in layers, or has to be removed with expensive ventilating equipment. In a Butler it rises naturally to the roof peak, flows out through simple ventilators.

Butler industrial buildings, such as Flick-Reedy's, have the muscle to support heavy cranes and hoists. No need to resort to obtrusive floor cranes, or shore up overhead craneways with bulky, costly reinforcements.

You won't find heavy, expensive interior partitions in Flick-Reedy's production area. Powerful Butler rigid frames support the roof, and span wide, column-free areas. Interior supporting walls are superfluous. This is more than a major economy. It provides a spaciousness that employees like, an openness that means safety, convenience, efficiency.

Interested? Then consult your Butler Builder (in the Yellow Pages under "Buildings" or "Steel Buildings"). He can tell you about the *new* Butler Buildings with your choice of two superior wall and roof systems. Ask him about the six factory-applied exterior wall colors now available. And ask about financing. Call him–or write direct to the address below.

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along the New, bigger Norfolk and Western

With the historic merger of the Virginian Railway into the Norfolk and Western — recently approved by the Interstate Commerce Commission — a number of choice new plant sites on the expanded N&W are now available to industry.

These fine sites offer abundant, reasonably priced electric power and an ample water supply. Sites are from 100 acres up of sufficiently level ground to permit economical development and expansion of plants and facilities. All locations are within easy reach of utilities, the railroad and highways.

Plants locating on the new sites along the bigger Norfolk and Western are within short hauls of a great variety of natural resources, including vast quantities of high-quality, all-purpose Bituminous Coal and high-purity limestone. Nearby, too, are the rich, teeming markets of the Southeast, Midwest, and North, and the markets of the world through the ice-free Port of Norfolk on famed Hampton Roads.

Manpower in this region is home-rooted and hard-working, with traditionally high productivity, low absenteeism and low turnover. People, businesses, and local and state governments in this productive area are friendly to new industry; climate is moderate; taxes are fair. And it's an exceptionally good place to work and live.

Send us your requirements, in confidence; then let our specialists show you just what this bountifully endowed, strategically located territory has to offer.

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Norfolk and Western Railway
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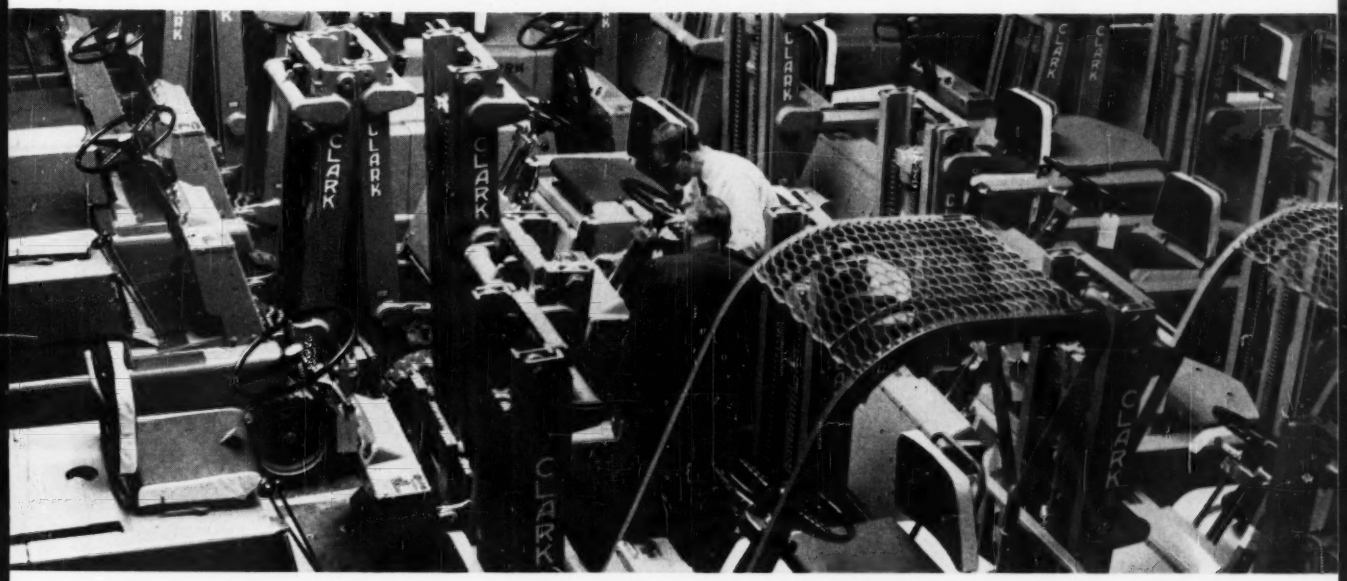
THE NEW

Norfolk and Western RAILWAY

NOW! A full service rental program



that saves capital, eliminates maintenance problems... rids you of truck downtime!

A new, *flexible* rental system, enabling you to acquire all of your materials handling equipment, with full service arrangements, and *complete maintenance coverage*, is now available.

You save working capital! Without large outlays of capital you take immediate possession of all new materials handling equipment. Your present equipment is purchased at full cash value . . . your only actual capital expenditure is one budgeted monthly payment.

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No more maintenance! Renting takes you out of the repair business. You no longer need to maintain a special repair shop, an inventory of parts, or special tools and equipment.

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A tailored system! A rental contract is prepared only after a thorough study of your specific operation is made. The flexibility of the Clark Rental System provides you with a *basic* program—without frills or extras—which keeps your handling costs to a minimum.

Compare the advantages for yourself! A booklet describing the rental program in detail, including a cost comparison chart, is available without obligation. For your personal copy, write or wire to the address below.

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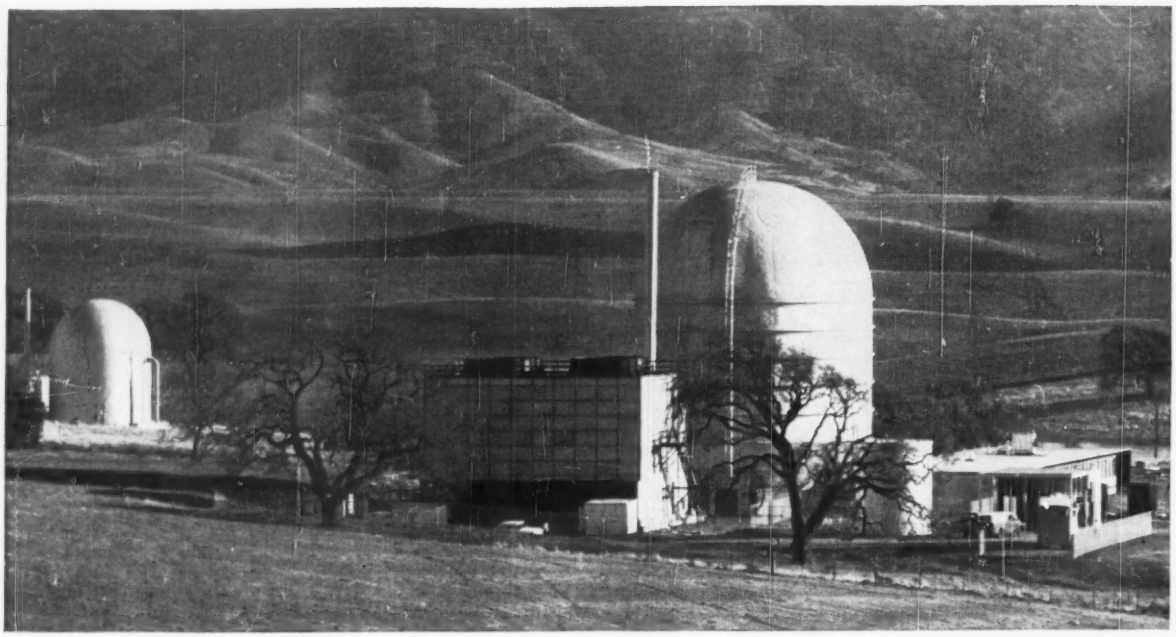

General Electric Vallecitos Atomic Laboratory. Here, in California's Livermore Valley, U.S. Steel sponsors the first large-scale, privately financed study of radiation effects on steel. Project will hasten the advent of low-cost atomic power.

This G.E. technician adds a touch of glamour to the serious business of making a radiation count on foil samples removed from General Electric Test Reactor. She works in a mobile lab made available to the project.

with USS Atom Age Steels

BEFORE ATOMIC POWER can light our cities or run our industries efficiently, the cost of building and operating commercial atomic reactors must be reduced. The two big problems: high cost of nuclear fuel, and the need for better and less costly materials of construction.

Firsthand information on the effects of radiation on steel has not been easy to come by. The start-up of the General Electric Test Reactor, near Pleasanton, California, and the Westinghouse Testing Reactor near Pittsburgh has enabled U.S. Steel to launch the first large-scale private investigation of irradiated steels. These explorations will be carried out in private test reactors, wholly financed with private capital.

Today, U.S. Steel has scientists working full-time at Westinghouse and General Electric Atomic Laboratories; extensive applied research in nuclear steels is also being carried on at U.S. Steel's Monroeville Research Center.

From these tests will come new and improved atom age steels: stronger, more corrosion-resistant steels, steels that will hasten the advent of commercial nuclear power. The full effects of this vast U.S. Steel research program may not be felt for two, five, or even ten years. But, cheaper atomic power is on its way . . . because American industries like U.S. Steel are contributing to the research. United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

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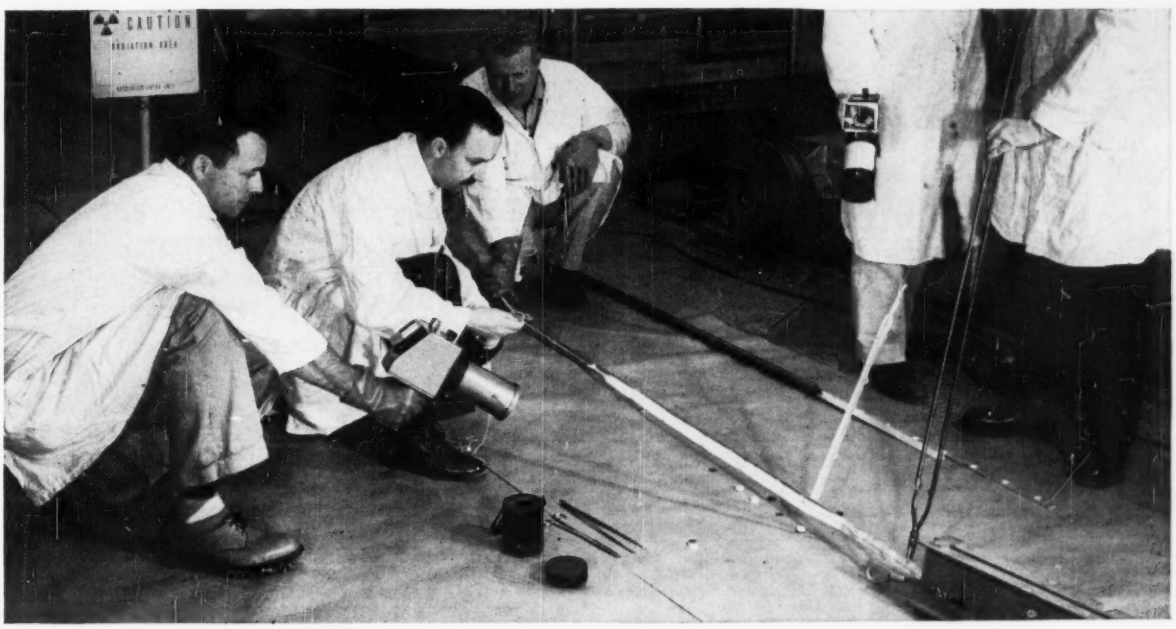
USS United States Steel



Clayton McDole, U.S. Steel scientist (second from left) supervises the removal of irradiated foil samples from General Electric Test Reactor. Information obtained provided a solid flux data foundation for the irradiation research of special reactor steels.

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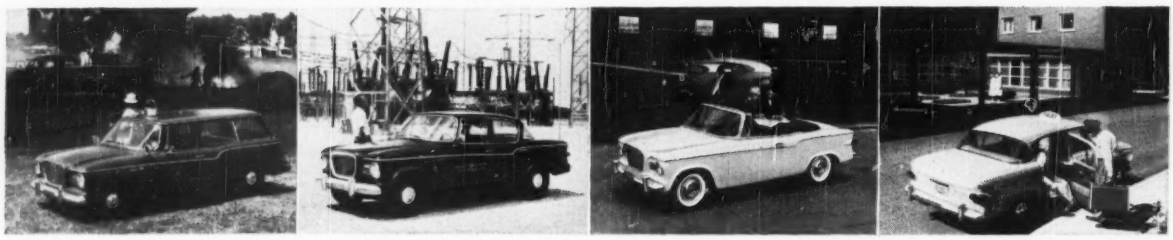

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Growth Target 1970

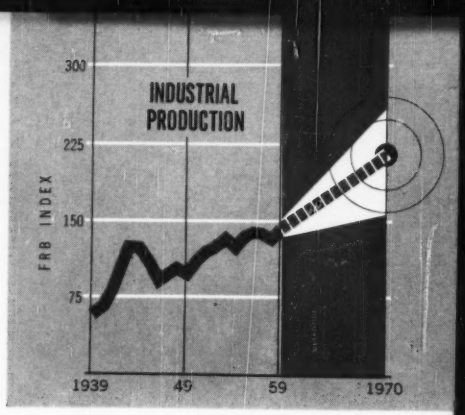
Industry's Job in the Coming Decade

What will the 1960's mean to U.S. industry? How will your company fare in the decade ahead?

In this issue, DUN'S REVIEW *presents a preview of American business's next ten years. It embodies the best thinking of leading economists, industrialists, and other authorities in every field of business.*

The challenge of the 1960's, as Peter F. Drucker points out in the concluding article, is first and last a challenge to top management. Industry's leaders must be prepared for the problems created by the process of growth. Technological progress will influence markets, products, and living standards. Growing pains will be felt in labor relations, overseas competition, and capital financing. But alert, far-seeing companies will find exciting opportunities for profit. These problems and opportunities are charted in detail on the following pages.

GROWTH 1970 1. TARGET



The Economic Goals:

Top Economists Spotlight 1970

JANUARY 1, 1970: What will this country be like on that date? How many men will be at work, and how much will they produce? How much will business sell and at what prices? How big will big Government be?

No one knows the answers for sure. Predicting the future is a little like chasing a greased pig. Just when you think you know where it's going, it skitters off in a new direction. Almost surely, any ten-year forecast made today will have to be adjusted dozens of times.

Perhaps the one thing that can be said with certainty about the economy of 1970 is that it will be different from that of today. The seeds of change are scattered all around us and, barring the catastrophic, are almost certain to bear fruit. Population is expanding; living standards are rising; productivity is growing; new methods, new materials, and new markets are springing into being. The company which must plan now for the distant future must weigh what the economic environment will be like at the time its plans come to pass. And some guidelines, however imperfect, to what that environment will be like are of vital importance.

Questions for the experts

To help define the world of 1970, DUN'S REVIEW asked twenty distinguished economists to give their views on what lies ahead in the next ten years, assuming there is no major war, no radical disarmament, and no major disturbance to the economy by outside forces. The economists were also asked what they thought the greatest challenge to the economy would be and what would be its greatest opportunity.

Some of the economists who were polled are with universities, some with private industry, some with labor unions, some with Government, and some with research foundations. Despite the diversity of their backgrounds, the economists show close agreement on these fundamentals:

The long-range trend of the economy: Up.

The rate: Fast—at least as fast as the 1950's and probably even faster.

Less happily, industry will be paying higher prices for the materials it buys and will be helping to support the biggest and most expensive Government in history.

Almost as important as the things the economists say are the things they don't say. Not one echoes the once-popular stagnation thesis, the idea that this country has grown old and tired and is done with the dynamic stages of growth. Not one predicts that a push-button world will be achieved within the foreseeable future, a world in which the economic fruits of life no longer will be earned by brains and sweat.

How far, how fast?

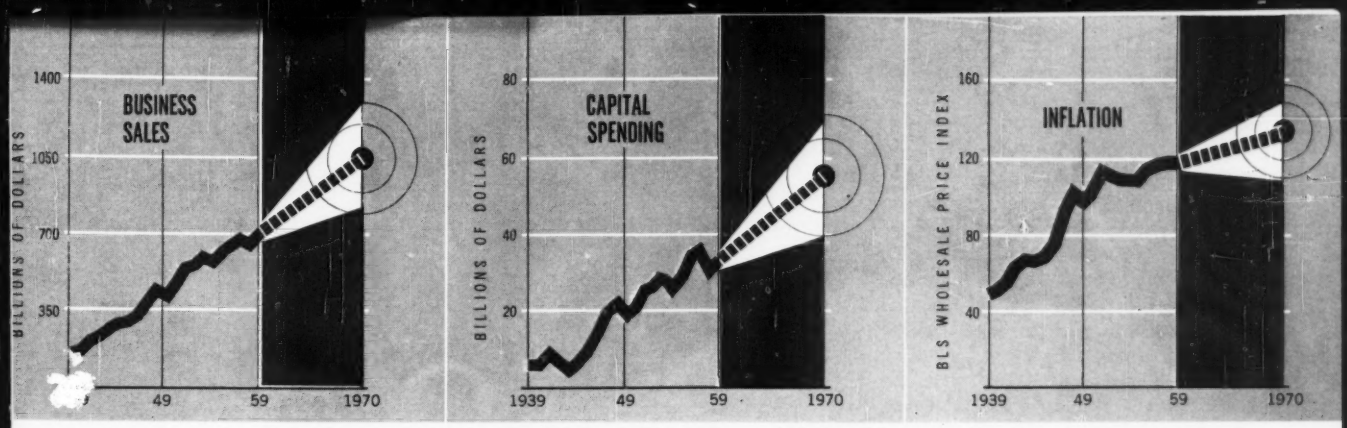
To be sure, the economists are far from agreed on the precise levels the key economic indicators will reach. This year, the Federal Reserve Board's index of industrial production has hovered at about 150. Estimates of where it will be in ten years range from a low of 160 to a high of 260. The simple average of the economists' responses puts the figure at 215. This would imply a compound rate of growth of a little less than 4 per cent a year over the coming decade, a good improvement over the 3 per cent growth rate the economy has achieved in the last few decades.

To provide the production facilities for that mounting flood of goods, the economists predict that expenditures for new plant and equipment will increase dramatically in the coming years. The average of the responses puts the 1970 outlay at $55 billion, 80 per cent above the 1958 figure.

As production facilities expand and output increases, business sales are expected to rise correspondingly. The economists predict that the total value of business sales will reach $1,056 billion by 1970, about 60 per cent more than the 1958 total.

Prices creeping up

As for prices, the predictions point toward more inflation ahead—but of the "creeping" variety. Only one of the responding economists believes that the U. S. Department of Labor index of wholesale prices will be lower in 1970 than today's 119 level. All the others predict that it will increase, with the estimates of its future level ranging as high as 150. Most of the economists feel it will be somewhere in the 130-135 area. That would imply a compound rate of increase in prices of about 1 per cent a year over the next decade, barely a ripple compared to the past. Since the end of World War II, the index has risen at an average compound rate of about 3.5 per cent a year.



Broken lines to targets indicate average (mean) predictions; light areas show range of individual forecasts.

Other portents of the business future as seen by the economists:

- There will be 72 million nonagricultural employees at work in 1970, about 25 per cent more than in 1958.
- The Federal Government will be spending $105 billion in 1970, compared to $75.8 in 1958.
- New housing starts in 1970 will run above 1.6 million, about one-third higher than the figure for 1958.
- Imports will nearly double, but exports will rise apace. By 1970, we'll still be sending abroad about $4 billion more in goods and services than we receive in exchange.

Bumps in the road

Taken together, the predictions add up to a glittering augury of the future. But, the economists warn, this is only the potential—the levels of wealth and prosperity this country is capable of reaching in a decade if the greased pig keeps running in the same general direction it has been. Whether we will actually reach our full economic potential is another question.

"The history of the past fifteen years alone does not prove that economic progress is automatic," says W. W. Tongue, economist for the Jewel Tea Company. "Undeniably, we have never in our history enjoyed such a long period of growth without a major depression, and to this extent, we are truly in a 'new era.' But as the new era psychology continues to spread, it may easily lead to the kind of credit and financial excesses which in the past have been followed by financial crises. We have yet to live through such a crisis and prove that we can get through it without more than a minor depressing effect on production and incomes."

Not one of the economists predicts that a depression—1929 style—will hit within the next ten years. But they are all agreed that the path of economic growth is not going to be smooth.

"I believe that it is likely that the United States will experience at least two or three recessions during the next decade," says Geoffrey H. Moore, associate research director of the National Bureau of Economic Research. "These may easily be as severe as the 1957–58 contraction."

Most of the respondents feel the business dips will continue to recur at about the same intervals that they have in the recent past. "The United States seems to run on the average of three peaks and troughs per decade," points out Willard L. Thorp, Amherst College economist. "I see no reason why this should not continue."

When will the recession hit? The periods most frequently termed "recession-prone" are 1961–62 and 1965–67. Most of the economists frankly label their predictions "guesstimates," pointing out that they are only an extension of the same economic rhythm the country has shown in the past. And they warn that such figures must be handled with care.

Problems of the decade

Recessions are the problem most frequently cited by the economists but not the only one they mention. Many point to the difficulty of encouraging economic growth without fostering inflation at the same time. Others stress the need for wage-price adjustments to meet the changing patterns of productivity and demand.

"Flexible prices and costs are essential for stability and sustained growth," says Woodlief Thomas, economic adviser to the Federal Reserve System. "There must be some declines in prices to give consumers the benefit of increased productivity and to stimulate demand for the growing output of the economy."

"A key threat to stability and steady growth is the undue concentration of power in labor unions," says Emerson P. Schmidt, economic research director for the U.S. Chamber of Commerce. "How to diffuse and disperse this excess power calls for intensive analysis, study, and policy making by both business executives and Government."

A few of the economists are troubled about the ability of the economy to absorb the flood of youngsters who will enter the labor force in the coming years. Federal taxing and spending is another sore point. "We must restrict Government spending to the levels we are willing to support by our taxes," says Ira T. Ellis, economist for E. I. du Pont de Nemours & Company. "In fact, we should have a net surplus over the business cycle to release more bank credit and savings for non-Governmental uses. We can't get more out of our economic system than we put into it."

Meeting the challenge

This, then, is the American economy at the threshold of the 1960's. The potential is enormous, but it will not be achieved easily. Unless solutions are found to such problems as recessions, inflation, and wage-price rigidities, it may not be achieved at all.

"Such failure would be undesirable under any circumstances," says Gerhard Colm, chief economist for the National Planning Association. "It may be calamitous when the rulers of a rival political and social system are waiting to exploit any deficiency in our economic system."

In the opinion of the country's professional economists, we have the human and material resources to expand faster in the next ten years than ever before in our history—to provide more of the tangible blessings of life to more people than the world has ever known. Such is the promise of 1970. It is also the challenge.

—MELVIN J. GOLDBERG

2. GROWTH 1970 TARGET

For many U.S. industries, the new decade will bring fantastic growth, but for some the tempo will be slowed.

Key Industries of the 1960's

AS the nation grows, industry—pushed by population trends and demands for a higher living standard—is growing with it. Over the next decade, steel tonnage will climb 31 per cent; air transportation will soar 107 per cent; electric energy sales will grow 117 per cent; autos will reach and pass the coveted 7-million-car market, and parts of the electronics business will quadruple.

In one sense, the 1960's will be a continuation of the fabulous Fifties we have just been through. Some of the powerful forces of growth that had full play during the 1950's will taper off during the next few years. Meanwhile, a number of new forces for growth will be developing. Industry as a whole will be gathering itself to take a running start on the 1970's—though few companies will realize this at the time.

Business on the upbeat

The tempo is going to be lively. The trend toward bigger and bigger producing and selling units and toward diversified concerns is going to continue. Markets are going to change and shift. With many industries at or near capacity, competition at home and from producers abroad is going to get more intense—so intense that for many companies the problem will be not how to grow but how to survive. Company prospects will be increasingly affected by interaction between their individual industries and the national economy.

To understand the long-term economic forces that will shape the decade of the 1960's, take a brief backward look at the postwar years.

Over a long period of time, the American economy has managed to increase its physical volume of production at about 3 per cent a year, but in the postwar period, 1947 to 1957, it grew at an annual rate of 4 per cent. During this period, electrical energy sales jumped 15 per cent, air transport zoomed 375 per cent, and engineering and professional services grew 125 per cent.

Meeting the demand

Pent-up postwar demand, plenty of money, and a consequent high level of spending soon revealed the shortage of labor supply and plant capacity in the United States. High wages and higher demand for goods forced industry into multiple large-scale capital investments. Faster and faster, new products and processes replaced the old. Aluminum, for instance, crowded in to replace copper and steel in many uses. Paper took over increasingly from wood in the packaging field; plastics replaced paper and metal in many uses. Natural gas cut into established markets for coal. And hundreds of new products, of which television and a wide line of appliances are the most obvious, bloomed and boomed through the middle 1950's. Then, in 1957, for the first time, plant capacity in many fields exceeded demand.

1957 was the year America caught up. For the first time in years, overcapacity was common in a number of industries. The recession of 1957–58 was a natural correction of this condition, and today, after the quick recovery of 1959, industry is poised on the brink of a new decade. For some industries this growth will be fantastic, but for others it won't match the feverish tempo of the postwar era.

Among current projections of industrial growth in the 1960's, one of the broadest and most interesting is the series of studies and five- and ten-year projections made by Lionel D. Edie & Company, a New York economic consulting firm, in each of the industrial categories listed by the Federal Reserve Board.

Like any set of projections, the Edie forecasts are based on certain assumptions. Specifically, they take for granted (1) that there won't be a major war, (2) that Government expenditures, our tax structure, and our current rate of economic growth won't undergo any radical change.

The first assumption, of course, is fundamental: no economic forecast would have meaning in the event of all-out war. The second may not be quite so firm. Pressured by increasing demands for world aid and by the very real threat of coming Soviet economic competition, our own Government may take steps both to increase overseas commitments and to inject more steam into the U.S. growth rate.

The kingpins of growth

Meanwhile, the charts at right offer a preview of the growth patterns of key U.S. industries in the next decade, barring heavy outside pressures. The projections are based on Edie studies, plus independent research and interviews with company and industry spokesmen. Although quantitative, they are extended not as firm pinpointings of specific figures, but as estimates of relative growth.

Electric utilities will be the kingpins of growth over the next decade, according to Pierre Rinfret, vice president and head of the economics division at Edie & Co. They will more than double in size, with the greatest

growth being in residential and rural power uses, which will climb 194 per cent. Energy fuels such as natural gas, petroleum and coal, which took a 25 per cent drop from 1947 to 1957, will also grow, but not to the same degree.

Aircraft flying high

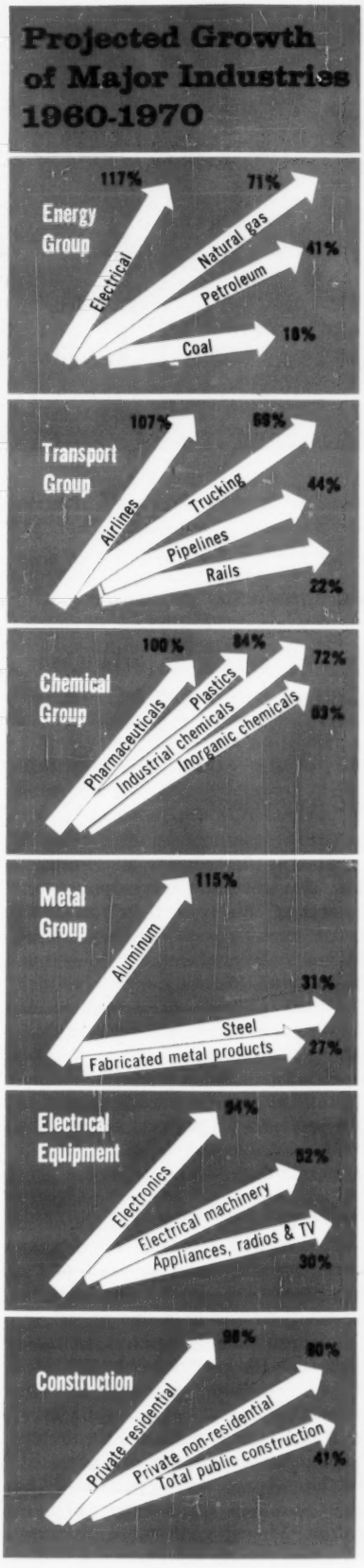
Air transport will be another boom industry. The airlines plan to put 230 new jets into service by 1961. With these new aircraft becoming available all at once, the industry will suffer overcapacity for a while but expects to continue to grow. The Civil Aeronautics Administration estimates revenue passenger miles will be close to the 60-billion mark, with available seat miles hovering close to the 100-billion point. American Airlines plans to double the number of passengers carried annually from 8 to 16 million —and register a 10 to 15 per cent a year increase in air freight.

Elsewhere in transportation, trucking will show the greatest gain. Pipelines will also grow, and even railroads, while dropping passenger business, will increase their bulk transport tonnage almost a fifth.

Detroit will see its share of growth. By 1970, there will be 100 million vehicles on the road. The auto industry consumes one-twelfth of the gross national product. It is the biggest single consumer of steel, rubber, glass, nickel, and lead. One out of seven people depends on Detroit directly or indirectly; it supports the petroleum industry.

However, there is a limit to how far the auto industry can grow. Most families today have cars. Industry planners speak glowingly of the two-car family of the future as the ticket to indefinite further expansion, but outsiders are beginning to refer to the auto industry as "mature." They see it gradually leveling off from its breakneck post-World War II expansions.

Chemicals, on the other hand, will continue to expand rapidly. Pushed by extensive research outlays that have successfully churned out new products and applications, this will remain a major growth area, though it is not expected to match the 115 per cent growth rate of the 1947–58 period. Certain areas will do especially well. Drugs, a field of chemistry where research outlays have been especially lavish, will likely double their sales over the next decade. Plastics production will also soar to new records.



In metals, aluminum is the chief growth element over the next decade. With more current capacity than it needs at 2.9 million tons in the United States, the industry will nonetheless expand, to reach between 7.5 and 10 million tons in the mid-1970's. One industry estimate puts total net shipments in 1970 at $11 billion compared to $4.6 billion today. Steel, the kingpin of U.S. metals, will also grow, but not so fast.

Electrical machinery, another growth field, will probably expand by one-half. In this industrial area, electronic equipment will see the greatest increase.

Scientific instruments will increase 51 per cent, and non-electrical machinery, which includes much capital goods equipment, will increase only 33 per cent. Part of this slowing of growth for non-electrical machinery will be due to inroads made on the American market by foreign-made equipment. These forays are going to lead to increased pressures for tariff protection for more American industries. Over the long run, however, most observers predict continued low tariffs, coupled with overseas movement of U.S. capital and production facilities.

Building boom ahead

Construction, which constitutes approximately 11 per cent of GNP and accounts for some 31 per cent of private, Government, and foreign investments, is a key determinant of growth in the economy. Over-all, the construction industry will grow by 52 per cent. The greatest growth will be in private residential building, with 1.8 million housing starts just possible by 1970.

Two other growth "industries" will be business services and engineering and professional services, both of which will increase by an estimated 83 per cent. State and local governments will also grow, by 79 per cent. Water and sewage investments will increase about 82 per cent, and educational services are also due to rise by 79 per cent.

Among other "industries," one of the hottest going is research and development. Currently at a $12 billion-a-year level, R&D expenditures will be over the $20 billion a year level by 1970.

—Edward A. McCreary

GROWTH 1970 3. TARGET

How Panel presidents expect their companies to grow over the next ten years is shown in charts at right. Arrows indicate median expectations.

Presidents Plan for Prosperity

A PRESIDENTS' PANEL REPORT

» *Top industrial leaders are getting set for a decade of unprecedented sales, profits, and productivity.*

» *Three out of four presidents plan changes in current marketing set-ups or distribution policies.*

» *Broad disarmament—if and when—would brighten long-range prospects for business, they believe.*

BY 1970, today's rosiest economic forecasts will look like short-sighted pessimism if all American business can follow the pattern projected for their companies by the top industrial leaders who make up the Presidents' Panel of DUN'S REVIEW.

These men expect, on the average, to increase their sales 75 per cent by 1970. Profits will rise even higher: the median prediction is for a 100 per cent gain in the next ten years. Investment in plant and manpower will also reach record highs.

DUN'S REVIEW asked presidents of 84 leading industrial companies to reveal their financial plans for the coming decade and to discuss some of the problems and challenges they see ahead. These men direct companies with assets averaging more than $125 million dollars. More than two-thirds of the companies are among the 500 largest U.S. industrials.

The presidents are worried about foreign competition, inflation, and labor-management relations. Yet, even after allowing for the optimistic bias that characterizes responses to surveys of this type, their total outlook is strongly positive. They foresee no insoluble management problems. Overwhelmingly, they reject the idea that there will be a major war within the decade—and they view the possibility of disarmament as a promise rather than a threat to our economy.

Half of the presidents expect to increase sales 75 per cent or more by 1970; some expect to quadruple or quintuple their sales.

Profits and production

Profits will increase more than sales, say the majority. Half of the presidents plan, at the very least, to double their profits in this period.

The production required for these high sales and profits will be achieved by comparatively modest, yet still substantial, increases in workforce, in plants, and factilities. The already large capital investment will be raised, on the average, by 54 per cent. The companies, on the average, plan to recruit 35 per cent more workers, many of them skilled, during a decade when it is predicted that skilled manpower will be scarce.

Among the most ambitious planners are presidents of companies manufacturing office equipment, machine tools, metals, agricultural machinery, and construction equipment.

Many of the new sales dollars will be earned by new products or services. Automation is an important factor. Office equipment manufacturers, for example, are getting ready to meet a widespread demand for electronic data processing. Manufacturers of instruments and of machinery are heavily involved in automation.

Newness for sale

Research is creating many new drugs, chemicals, alloys, and synthetic materials—and these, in turn, will be used for new products.

If the plans of these presidents are typical, one-fourth of business sales volume in 1970 will be from either totally new or radically improved products. This is probably a conservative estimate, for the new products are not made of dream dust; many are already close to full-scale marketing.

In addition to creating new products, the trend to automation will create important savings for many companies. About one president in four sees this as the technological development having the greatest effect on his company during the decade.

Primarily, automation is seen as improving productivity—or, as one man puts it, "fewer manhours per sales dollar." A fair number of presi-

dents see automation primarily as an office operation that will, they hope, help improve controls and speed decisions by supplying executives with faster, more accurate, and more complete reports.

Trends in technology

Other technological trends found important by presidents are: advances in power generation, including atomic energy; use of new and lighter materials; miniaturization; and processing to preserve perishable foods.

How will the improved and more abundant products reach the market? In this field too, three out of four presidents are planning changes.

The most wanted change is a more direct approach to the consumer. Manufacturers of products that have always, traditionally, sold through distributors are taking a second look today. The reasons are various: dissatisfaction with distributor performance and a desire for more aggressive selling; savings seen possible on distribution costs; desire for closer contact with the customer. This desire is so great that even manufacturers of products that must be modified before they are sold to consumers (such as building materials or optical glasses) are increasing consumer advertising.

There's a trend too toward requiring larger unit sales volume. Because of this, more companies are planning to sell primarily to large chain outlets and other mass retailers. These tendencies will put a squeeze on wholesalers and on small retailers.

Many company presidents are attempting also to improve their marketing methods by doing more market research, by employing staff specialists, and by giving their salesmen the more thorough training required to sell complex products.

Despite continued publicity on the scarcity of skilled workers and of men with executive potential, most company presidents appear unconvinced. They feel that they, at least, will face no shortage during the next ten years.

Those presidents who do foresee a shortage are concerned mainly with the problem of executive recruitment. Few, apparently, are worried about a future dearth of technical workers.

Despite their over-all optimism, these industrial leaders see difficult problems facing the U.S. economy. The greatest threats, say the majority, are foreign competition, inflation, and the demands and encroachments of labor unions.

Many presidents also see a threat in Governmental policies and regulations, particularly taxes and "unrealistic depreciation allowances." They fear also that further deterioration of labor-management relations may bring about compulsory arbitration and other forms of Governmental intervention in management affairs.

Although few of the presidents welcome or even accept Governmental regulation of business, most appear to be more or less resigned to the continued existence of these controls. The majority feel that controls will, if anything, be increased by 1970.

If the DUN'S REVIEW panel is a fair sample of management thinking, war doesn't enter into the planning of most American industries—certainly not for the next decade. Six men in eight feel that our chances of avoiding war are "good," "excellent," or "100 per cent"; one in eight feels slightly less confident but still optimistic. Only one in eight believes chances for peace are less than even.

Peace and prosperity

What of the Soviet propaganda pitch that the United States must keep up the cold war because our economy would collapse without the aid of defense spending?

If this threat exists, few of the industrial leaders on the DUN'S REVIEW Panel seem to feel it. Though the majority acknowledge that disarmament would cause either a mild or a painful period of readjustment, they feel that the end result would be a tremendous boost to our economy.

Presidents believe that the slack from disarmament would be taken up in two ways: first, by badly needed public works such as housing, schools, hospitals, and roads; second, by consumer demand for peacetime products—since taxes could be reduced and consumers would thus receive more take-home pay.

Many of the presidents warn, however, that Government action would be needed to ease the adjustment. They suggest these three steps: a quick transition to public works; prompt tax reduction; and gradual tapering off of defense orders.

Provided the transition is an orderly one, many of these industrial leaders believe that if we can ever drop the arms race the ultimate result will be, as one of them expresses it, "the greatest prosperity the world has known." END

GROWTH 1970 4. TARGET

The Market Challenge of 1970

BY 1970, it will be difficult for any company to survive—much less show a profit—without:

- A market-oriented approach to all management decisions;
- A long-range marketing program based on solid, scientific market research;
- *Planned* flexibility that will permit fast footwork to meet the dizzy pace of marketing changes.

This solemn warning is sounded by marketing experts in every phase of the economy. With an anticipated $750 billion gross national product, 210 million population, and a 200 per cent rise in discretionary consumer spending, the Soaring Sixties will be bigger, better, and more exciting than anything we've known. But it will be a faster-moving and more expensive market in which to operate.

Management's decision making, too, will be bigger and faster. It will also need to be better—because the price of a mistake will be ominously higher. "Two bad guesses, and we can easily be out of business," warns Chrysler's President L. L. Colbert.

What are the major marketing trends of the 1960's? Actually, they are all apparent now. Barring global war, runaway inflation, or greatly increased Government control of business, these trends will predominate:

- New products and materials tumbling out of the research and development labs at an unprecedented rate
- Dramatic shifts in distribution channels
- Startling changes in competitive conditions
- Greater activity by U.S. companies in Europe.
- Higher selling costs and a tighter profit squeeze

As Arthur Dougall of Stewart, Dougall Associates, New York, marketing consultants, observes, "This boom is not going to be a matter of meeting a pent-up demand but rather of the successful creation of demand among people who are more and more able to buy."

Newness Is the Key

No one can say for sure how much of the sales volume of the 1960's will come from new or improved products, materials, and processes, but it will be sizeable. U.S. industry shelled out $60 billion for research and development over the past decade (it was running $10 billion a year by 1958), and the tab will probably go up to $120 billion for the 1960's.

What comes out of the labs will have to be appraised in terms of the market. Developments which don't meet the does-anyone-want-it test will languish—expensively—in the labs.

The menace of new products upsetting even the most firmly entrenched "classics" will grow with the decade. No industry or company will be safe. Nobody can count on "brand loyalty" to sell his product if a better one comes along.

In industrial marketing, too, management must face up to another fact: Not only are innovations coming to challenge specific product lines, competition also will be coming from *functional* alternatives—i.e. a customer can choose hydraulic, pneumatic, electrical, or electronic means for equipment controls.

The market itself in the 1960's should offer plenty of inspiration for newness. Of the estimated 35 million increase in population, about two-thirds will be among the youngest (under twenty) and oldest (over sixty) age groups, and products to meet their needs will be in demand.

The war babies of the 1940's will be marrying, creating about a million new households a year by the mid-1960's (new households this year: 850,000). Heads of families will be better educated, with more cultivated tastes and a higher budget for discretionary spending with which to gratify those tastes.

To sum up the new product situation: the 1950's proved (and the 1960's will continue to bear out) that there's no defense against a new product with demonstrable advantages to the consumer.

Charting the Channels

Distribution channels will continue to change in the 1960's along lines already clearly etched in the 1950's. In retailing, particularly food, we can expect fewer chains controlling more (and larger) outlets. Already, according to James O. Peckham, executive vice president of A. C. Nielsen Company, 41,700 stores (12 per cent of the total) handle 70 per cent of food volume. By 1970, only 35,000 outlets will handle the same volume.

Mail order, house-to-house, club- and party-plan selling will make tremendous gains in the next ten years.

In fact, as Samuel Barton, president of Market Research Corporation of America, sees it, we'll have "automated" systems like food plans and book-and-record-of-the-month clubs, selling many high consumption items. People will sign up for regular home deliveries of routine items.

All retailing will be going "super." Some experts foresee most stores becoming indistinguishable—a kind of streamlined version of the old-fashioned general store. Others grant a definite place for the independent, albeit with a super-store of his own, joined with other independents in cooperative buying setups.

Powerful pre-selling will be a must for the supplier. His success in the battle for shelf space—food items alone will increase from today's 5,000 to 8,000 in 1970—will depend largely on his advertising, servicing, and merchandising support.

Retailing volume will continue to move into shopping centers—which will become true one-stop "communities."

Distribution channels will continue to change in industrial marketing, too. The big jobber is being abandoned in favor of non-stocking manufacturers' agents and direct company representatives.

The growing industrial population will be widely scattered geographically. As A. J. Tracy, a General Electric industrial marketing consultant, puts it: "We'll see a trend toward many more points of purchase, resulting in wider deployment of field organizations to cover all the bases."

Know Your Competitor

It will be a wise business man who knows his own competitor in the 1960's, for companies will discover increasingly that their customers or suppliers are also their competitors.

In consumer lines, the chains will always be poised to lower the private-brand boom. In industrial selling, in addition to the customers' make-or-buy threat, the trend to diversification will find more companies competing in new surroundings.

J. W. Keener, president of B. F. Goodrich Company, describes the situation this way: "Companies in slower growth fields will have to defend old product lines and seek ways to participate in more rapid growth fields . . . Companies in rapid growth fields will have to defend themselves against additional competitors from the slower growth fields who are attempting to step up their own profit increase rates. These may be entirely new enterprises or long-established companies."

Just as consumer goods suppliers will do more of the retailers' merchandising, the industrial seller will become involved in his customers' technological problems to the point where he'll be almost an extension of the buyers' production lines.

In short, the demands to be made on suppliers will be different—and much greater.

Tapping Foreign Markets

Market saturation and the high cost of making a dent in consumer consciousness will cause more and more U.S. companies to look abroad, particularly to the six Common Market countries—Germany, Italy, Belgium, Luxembourg, The Netherlands, and France.

As Marion Harper, president of McCann-Erickson, Inc. advertising agency, points out: "Suddenly, around the world, there is the beginning of mass discretionary buying power. People for the first time are finding the means for more than the bare necessities. Over the past ten years, against our 25 per cent, Europe's gross product per capita has climbed a whopping 40 per cent . . . an immense untapped potential."

Just back from Europe, Don G. Mitchell, president of General Telephone and Electronics Corp., quotes American business men as predicting that sales from overseas operations will be at least double over the next ten years, a rate far higher than exports from the United States are likely to be. Mitchell sees our private investment in Western Europe rising in the next three or four years from $4 billion to $6 or $7 billion.

Despite the hazards of marketing in foreign countries, droves of U.S. companies will decide to take the plunge.

The Big Squeeze

Despite all the more-of-everything talk, the frightening fact remains that selling costs, too, will zoom.

The battle against this threat to profits will be marked by new developments to speed, even to automate, product handling. Marketing consultant Wroe Alderson of Philadelphia also expects faster systems to feed inventory and product flow data from warehouses to plants and sales offices by tape.

The salesman's allocation of his time, the nature of his presentations and follow-ups—all will be scrutinized more closely. Motivating the salesman's every move in the 1960's will be profit rather than volume.

This marketing-for-profit approach will dominate management thinking. *All* company plans will be predicated on buyers' needs.

This means that the top marketing man will not only participate in production and finance but, in many companies, will dominate those areas. He's likely to be a *staff* man who will coordinate field sales, advertising, merchandising, promotion, public relations, and marketing research.

Market research will be called on for greater accuracy and more scientific standards of performance.

Planning will be the watchword—the kind of planning which, says Dwight F. Benton, vice president in charge of sales, Standard Oil Company, New Jersey, "spells out specific actions to be taken and establishes a timetable for them."

The need for flexibility to meet sudden change can be achieved only by long-range planning *for* flexibility. Change is the one certain characteristic of the next decade.

"It's change, not love, that makes the world go round," sums up Charles H. Brower, president of Batten, Barton, Durstine & Osborne. "Love only keeps it populated."

—CLAIRE TRIEB SLOTE

GROWTH 1970 5. TARGET

What's Ahead in Production

WATCH THESE TRENDS

Computers will move into production control—as well as design and inventory distribution

Improved methods will generate increased capacity

Automation will concentrate production facilities in fewer plants

Cost-reduction efforts will center on indirect costs

AS THE guardians of a multi-billion-dollar capital investment in buildings and equipment, production men dare not jump on every technological bandwagon supposedly leading to the Utopian factory of the future. In keeping with this traditionally solid, feet-on-the-ground attitude, few of industry's leading production executives expect the next decade to bring problems that will refuse to yield to today's tested approaches. Nevertheless, the new problems they are starting to run into today will be magnified tomorrow. Equally bothersome will be certain basic problems that have plagued industry's dedicated production bosses for decades and are likely to become even more worrisome in the next ten years.

The working production bosses interviewed by DUN'S REVIEW editors, whose remarks were leavened by comments from prominent researchers, management consultants, materials experts, and educators in technology, sum up the No. 1 production problem of the 1960's in a single familiar word: people.

Here's how Halbert Miller, the General Electric Company's vice president of manufacturing services, puts it: "Industry's greatest weakness in the production area is going to be communications. It's only by communications from the marketplace to the factory floor that we can make the right product at the right time. And in the other direction, better communications will enable us to motivate our factory workers and other employees better."

Technical talent shortage

Looking ahead, the experts are also worried about manpower, especially on the professional employee level. Dr. P. J. Flory, executive director of research, Mellon Institute, believes the problem may well become acute if industry doesn't learn to make better use of available technical talent. He emphasizes that industry's present technical force is not well utilized—too many highly trained scientists and engineers are being diverted into administration, sales, and product promotion, where their basic skills are barely exercised.

Production people are concerned about the availability of professional people because today's technology demands ever-increasing numbers of more highly trained engineers in production. For instance, in 1945, 8 per cent of GE's engineers were in manufacturing. Today, 15 per cent of a much larger technical staff works on production problems. By 1970, Halbert Miller expects this percentage to rise to a whopping 30 per cent.

Advancing technology and the perennial pinch of labor costs are forcing production management to turn increasingly to broader mechanization, improved intra-plant communications, and computer determination of production schedules.

The manufacturers of heavy electrical equipment are already using computers to determine the "optimum" design for a given customer's needs. The computer not only saves on engineering time but details configurations that take less time and materials to produce.

At the same time, the computer punches out a complete bill of materials, a big paperwork chore in itself. Using this system, GE has already been able to cut manufacturing time by 40 per cent. The next logical extension of high-speed computation is to production scheduling. G. H. Garroway of Republic Aircraft Corp., which is currently interested in one such system, believes they have a big future in job shop production, which even now accounts for a great-

er total dollar volume than mass production. When computer control of production schedules is achieved, manufacturers will be able to stretch working capital by greatly cutting "in-process" and finished inventory.

Since computer scheduling of production is likely to be the dominant mode of automation in the next decade, the completely automatic factory, depopulated of operators, will be a rarity—if it exists at all. Right now, of course, it is still a dream—or, more accurately, a frightfully expensive nightmare.

The advice that many production experts offer on automation can be summed up in the one word "caution." Fred Mackey, vice president for manufacturing of Allis-Chalmers Manufacturing Company, sees danger in "automating too fast too soon." Since the pace of development in automation is rapid, automatic equipment must frequently pay for itself in three or even two years.

Harry Beggs, vice president for manufacturing of International Telephone & Telegraph Corp., raises the same caution sign. He asserts, "After the shortage of topnotch people, industry's biggest production problem will be the widespread inability to correctly analyze capital investment situations, including those involving automation equipment."

John Carter, president of Fairchild Camera and Instrument Company, tends to take a conservative view of automation prospects. Says he, "In mass production industries, there won't be so much automation as people expect. Planned obsolescence makes large-scale automation very costly."

Cutting the cost

To help cut the high cost of automation, Fred Mackey foresees more standardization in machine tools, first within each manufacturer's line of tools and then among competing lines. Such standardization in the machine tool industry, he asserts, would mean lower initial costs, more flexibility in rearranging automated production lines, smaller spare-parts inventories, and reduced maintenance.

The high cost of automation will tend to force greater concentration of production, according to the experts. Highly automated machinery must ordinarily be run on a two- or three-shift basis, sometimes seven days a week, to pay off. Thus, a single plant might handle a company's entire production of a certain product or family of products.

Because high transportation costs act as an economic brake on profitable centralization, they will come in for increasingly critical attention from executives. There will be a strong push for more piggyback, better methods, and more reliability in truck schedules. Development of a universal container that would be interchangeable on rail, truck, air, and ship lines should be a prime objective of industry, says Lt. Gen. James M. Gavin, now executive vice president of A. D. Little, Inc.

Saving on materials

Automation and mechanization aren't the only ways to cut costs. Already most companies are concentrating their cost-cutting efforts on materials and parts. The reason is pretty obvious: on the average, they contribute four times as much to final cost as direct labor.

In materials, many manufacturers are currently enthralled with plastics and miracle metals. Nevertheless, despite phenomenal projected increases in consumption of plastics and the aluminum industry's plans for quadrupling of capacity by 1965 steel will continue to be dominant.

According to James B. Austin, administrative vice president for research and technology of U.S. Steel Corp., "the steel industry has never been more alive and alert than today"—a statement willingly confirmed by Dr. Kent Van Horn, director of research for the Aluminum Company of America.

Although aluminum will continue to make inroads into steel's traditional markets—notably in packaging—one of the nation's largest consumers of steel, the auto industry, is generally remaining loyal to steel. Ford engineers say no available material can conceivably oust steel as the major material in cars in the next ten years. It's probable that steel prices will "of necessity" continue to rise, according to J. P. Douglass, vice president for technology of Union Carbide Metals Company. However, he predicts that the increases will not match the rate of general inflation.

Industry's multi-front attack on the high cost of manufacturing is resulting inevitably in increased capacity. This second harvest of increased capacity produced by industry's current

Burnham of Westinghouse

"Cost reduction has been, is, and always will be our greatest production problem. By 1970, much of the effort will be concentrated on costs other than direct labor and materials."

General Gavin of A.D. Little

"Industry's exploration of the extremes of the temperature spectrum must go hand in hand with the exploration of the earth's environment, both its depths and in outer space."

President J. A. Stratton of M.I.T.

"Quality technical leadership working through experienced technicians will be the key to technical progress in the 1960's."

cost-cutting efforts will affect industry's expansion plans.

Some industries are plagued by over-capacity, slack that will not be taken up for a few years. Others are running into stiff foreign competition or building plants overseas.

But the main curb on plant expansion is the gain in capacity through new methods. Don Burnham, vice president for manufacturing of Westinghouse Electric Corp., believes that new plants will be needed for new products but added capacity for established products will, in the main, be provided within existing plants.

The world market heralded for the coming decade also means worldwide competition. In large measure, the ability of American industry to hold its own in that market is based on the ability of its manufacturing executives. Since capacity to produce is not the problem, holding the line on costs emerges as the pivotal issue for these key men. The vigor with which they are analyzing and attacking the cost problem offers much hope for industrial prosperity in the 1960's. —MELVIN MANDELL

New Tools for Industry

JOHN DIEBOLD

SPECTACULAR new developments in automation will have a growing impact on American industry in the decade ahead.

The most immediate progress will be made in the area of communication equipment. Large corporations, which took the lead in initiating the use of large-scale computing equipment for data processing, will give more management attention to integrating accounting, purchasing, inventory control, and shop scheduling through centralized processing.

Until now, automatic data processing has been largely confined to batch processing. This means collecting data during the day, usually in the form of punched cards. These cards are then sorted and processed against a sequential file in a daily processing run. However, several improvements in the punched card system soon to be introduced should speed up the operation and reduce the input preparation costs.

Faster fact gathering

As is indicated in the chart opposite, equipment will be available next year for card-to-card transmission of data over regular long-distance telephone wires. Relatively inexpensive sending machines installed, for example, in a company's branch plants and sales offices will be used to send information at the rate of 40 cards a minute (and for the price of a phone call) over the telephone lines to headquarters where a receiving machine will produce the data on another card.

An extension of this system, the card-to-card information station, also will be available in 1960. It would work like this:

A production worker drops his time card into a "remote station" computer located on the production floor and, using a keyboard, inserts such variable data as employee number and quantity produced. This information is then transmitted over cables to a central information station which punches a transaction card. The transaction cards transmitted from this and all other remote stations are accumulated and subsequently converted to magnetic tape and fed into the computer.

Improvements in magnetic tape transmission, however, will eventually do away with the extra operation of converting punched cards to tape. By 1961, tape-to-tape transmission utilizing long distance telephone lines will be available. Even higher-speed tape-to-tape transmission will be possible with the use of coaxial cable. This advance is expected about 1964.

Before the decade is out, it will be possible to feed information from remote stations in plants and offices directly into a central computer, which will maintain an up-to-the-minute file and will immediately feed back answers to requests for any data contained in the file.

In-plant information stations, which will be introduced in 1961, will permit direct, continuous transmission of punched-card data from the remote station into the central computer. The computer will be able to maintain an up-to-the-minute file. It will also produce daily summary reports of operations.

By 1963, continued advances will make possible the in-plant inquiry and control station, which could automate the whole scheduling process. A medium-size computer will do the basic file maintenance of incoming data, but it will be attached to a bigger computer, which will draw its information from the file, coordinate such complex processes as scheduling, and relay any changes back to the remote stations.

Service industries, such as banks, will use inquiry stations, for example, to check customer accounts and to record transactions. Airlines will be able to make and confirm reservations quickly and, at the same time, record billing information. Department stores will check credit and account balances automatically.

Automating the plant

The truly automatic factory is still far from a reality today, but during the next decade improvements on existing equipment and systems will bring it closer to realization.

With existing tape-controlled machine tools, extensive calculations are

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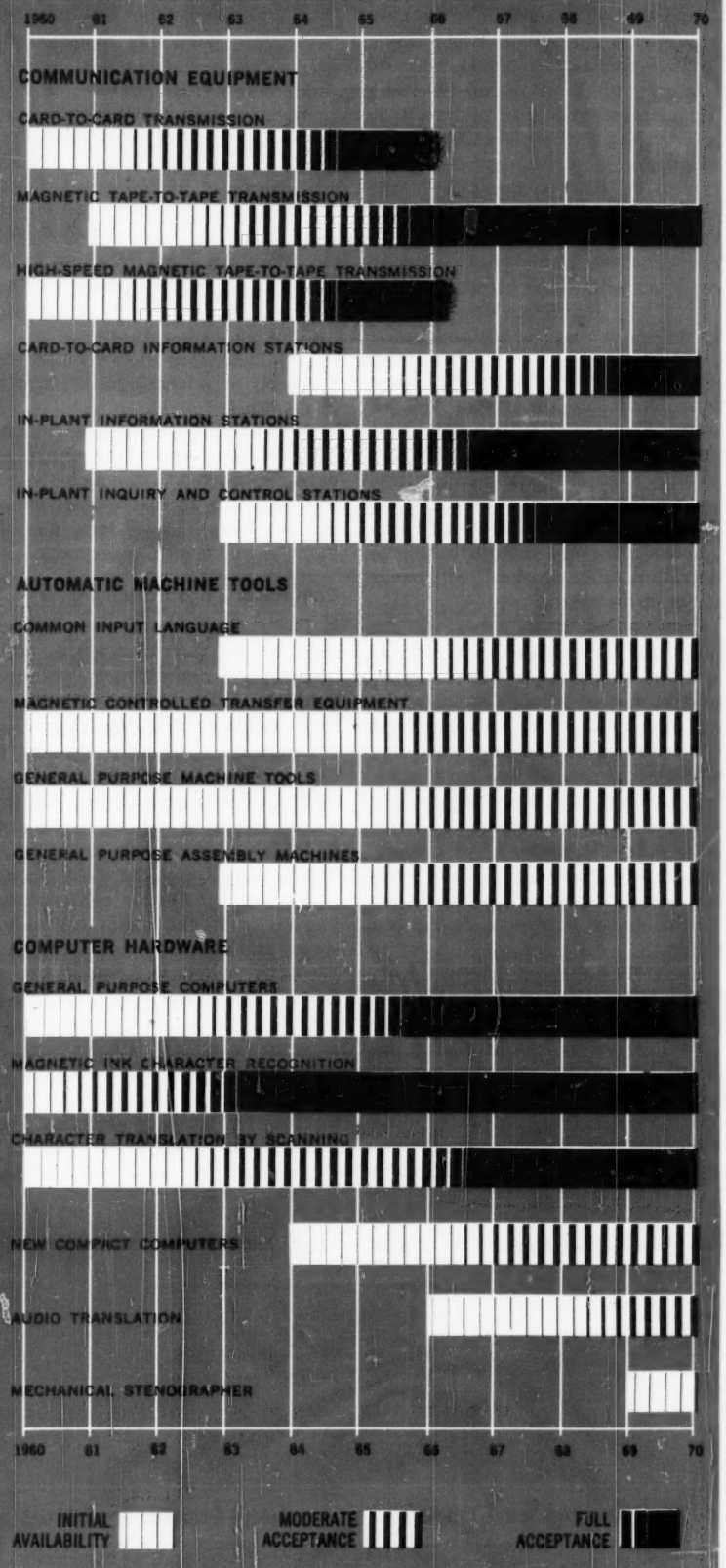
JOHN DIEBOLD, at 33, has built a career and an international reputation as an authority on automation. He is founder and president of John Diebold & Associates, Inc., a worldwide organization of consulting companies specializing in automation and automatic data processing. Mr. Diebold is the author of *Automation*, one of the first authoritative books in the field, and of many papers and articles on this and related subjects. His last contribution to DUN'S REVIEW appeared in our August 1958 issue.

Timetable for Automation



required to prepare the instructions for the coded magnetic tapes. Today, these calculations are performed on a computer using specially prepared programs for each specific part. By 1963, a common input language for computers will simplify this job.

A few companies both here and abroad are already using tape-controlled transfer equipment to link together several of these automatic machine tools into an assembly line. Further development of this equipment can be expected in the next ten years.

To be efficient, automatic tools today can perform only one specific function. But automatically controlled tools which can perform a number of different jobs, such as cutting and stamping, will be in use by 1962. The next step after the development of these general purpose machine tools will be the development of general purpose assembly machines.

Versatile new "brains"

Behind all of these advances are a number of major improvements in the computer itself.

General purpose computers, which will be installed next year, will be able to handle equally well such business functions as inventory and scheduling and such engineering functions as the design and development of new equipment.

New compact computers, which will be available by 1964, will be smaller, faster, and more flexible. They will be able to do more jobs simultaneously and will make a bigger file of information easily accessible.

Wider usage of magnetic ink character recognition systems will take place during the decade. Many banks are in the beginning stages of using magnetic ink account numbers, which can be "read" electronically, on their checks. Character translation by scanning is another development in this area. In this process, a photo-electric eye scans the numerals and records them.

By 1966, it will be possible to instruct a computer verbally by means of audio translation. In another four years, a mechanical stenographer attached to the computer will give back the recorded data on a sheet of paper.

To get the most out of its investment in this revolutionary equipment, management will give more attention to finding broader uses for these new tools of industry. END

GROWTH 1970 6. TARGET

Manpower Management in the 1960's

MORE money, more leisure, earlier retirement—in the bag by 1970.

Greater industry investment in employee welfare programs, smarter communications, more top management concern for general company organization—better than even money.

Fewer strikes, a decline in labor's political influence, compulsory arbitration of extended national emergency strikes, less featherbedding—distinct probabilities.

That's how some of today's canniest industrial relations experts sum up the prospects in the Soaring Sixties.

Labor's hopes and fears

Labor's hopes for the next decade have been plainly stated—a four-day workweek, a lower retirement age, higher wages, a greater say in company management (especially on prices and profits), a $1.50 minimum wage, greater Social Security benefits, including pensions, health, and unemployment insurance. Labor can count on industrial growth to accomplish many of its objectives. Barring an unforeseen economic catastrophe, wages will rise, the workweek will be shortened, Social Security programs will be widened and deepened. If the 1960's are years of economic expansion, this is inevitable.

But labor itself may be in for some rough bumps. Anybody who thinks unions will read a lesson in the recently enacted labor legislation and instantly turn over a new leaf is simply doing some wishful thinking. Labor is still the only unregulated power monopoly remaining in this country. But unless it uses diplomacy rather than force to secure its aims, it will not enjoy forever this privileged status.

True, unions will remain powerful—but not as powerful as they have been. Their rate of growth will be slower. There is as yet no indication that their effort to organize the significantly expanding white-collar class will meet with marked success. In fact, unless management muffs the ball, there is every reason to believe "operation office worker" will never get out of low gear.

Even in the shop, labor will be forced to change its methods. Declining union membership, decreasing interest in union affairs as indicated by lack of attendance at meetings, and automation-caused changes in the manufacturing workforce are already giving labor leaders considerable worry. Their effort to solve the problem is a frantic fight against change. But, in the long run, they won't preserve the status quo by trying to seal it off behind a featherbed curtain.

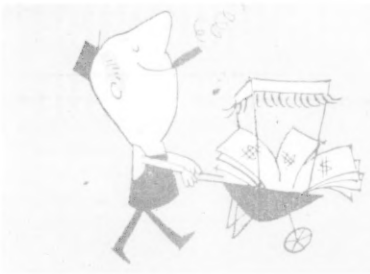
This does not mean a retreat from welfarism or a return to pre-Wagner Act conservatism. High taxes, high Federal spending, Government responsibility for the economic security of citizens are a way of life—and will remain so. But rising incomes, and a more equitable distribution of prosperity's benefits are giving a greater mutuality of interests to all segments of society.

As economic factionalism subsides, the political appeal of the wholly partisan approach will diminish. To protect its rights against special interest groups, the public will look more and more to impartial Government.

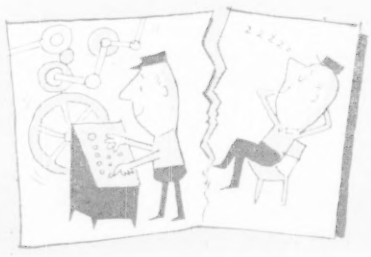
Compulsory arbitration threat

This prediction may be in left field, but if unions don't change their image in the public mind, they can expect further legislation designed to curb their activities, including antitrust and compulsory arbitration (which nobody wants) of national emergency strikes. Furthermore, the politician whose record is one of subservience to labor's political line may find it a mighty handicap in the 1968 election.

To sum up: On the collective bargaining front, the issues will still be wages and fringes—with emphasis on the latter. Wages will continue to rise faster than productivity. But the difference in the relative speed won't be as great. Vacations will be expanded—by 1970, three weeks will be the norm, and four weeks will not be unusual for ten-year veterans. There will be more holidays—nine or ten on the average. Pensions will be higher,



Bigger wages and fringes



Less featherbedding

retirement age lower—62 for men and 60 for women. Insurance and supplemental unemployment programs will be broader and more generous.

Management and labor will work out ways—special funds and the like—to reduce the impact of automation through replacement and retraining. Management will win its fight against featherbedding. Not right away—but by 1965, progress will be surprising.

A new maturity

Is the outlook grim for labor? Not at all! Prosperity will make unions more conservative. There will be little profit in upsetting the function of the economy by the irresponsible use of the strike weapon. New leaders, more capable of dealing with contemporary realities, will come to the front. Slowly but surely, the corruption and arbitrary practices of labor will be eliminated or toned down.

Employee recruitment will be more intense. To attract qualified students in technical fields, closer relationships will be established with high schools and trade schools.

Hiring will become increasingly selective. Tomorrow's applicant will have to be able to do more than replace a veteran on a present job. He will have to have the intelligence, education, and flexibility to carry out a variety of assignments—many of them new and unprecedented.

The workforce will become more stable. Cost of supplemental unemployment, severance pay, other fringe benefits are becoming too costly to permit accordion-like expansions and contractions in employment.

College recruitment will be more important than ever in the competitive 1960's. The approach will be less frantic, more selective—quality, not quantity the aim—even for engineers.

No company will soar in the 1960's if its training is lackadaisical. Development of a highly trained, competitive organization will be a challenge to training specialist and, increasingly, to line executives as well. Training programs will be more specific, more job-related, designed not only to improve the employee's skill in work he is already doing but to prepare him for higher or broader assignments. Job rotation will be increasingly used as a training device—with union consent. The emphasis will be on the technical—cost reduction, job methods, increased efficiency. Economic education and human relations will not be neglected but will be taught in relation to job training.

Management will do more of its own basic research in executive education—check out ideas developed at universities and elsewhere before accepting them and uncritically installing them. Emphasis in management development will be on subject, not technique. The trend in outside programs is toward the small participative meeting—workshop, briefing session, seminar. Fewer large general conferences will be held. Management interest in the humanities as part of executive development will increase.

Complicated, multi-form, frequently unrealistic methods of executive appraisal are on the way out. The group appraisal technique will be much modified. The stress will be more on job performance than on intangible, hard-to-judge personality qualities. Executives will be asked to take greater personal interest in the progress of subordinates and to work with them individually to improve their managerial abilities.

The value of wage and salary administration as an instrument of management control will increase during the next ten years. Executive fringe benefits—thrift, stock option, bonus plans—are becoming more complicated.

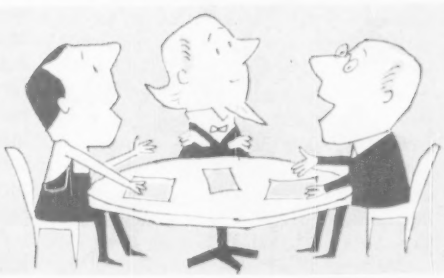
Companies will use the rifle, not the shotgun, in written communications. Look for expansion and improvement in supervisory and management newsletters. Industry will do a better job of defining communications objectives and philosophy, and there will be less hesitancy to discuss controversial subjects and state the company point of view. A growing number of companies will establish departments of employee communications. More specialists will enter the field. Skill in oral communications will be an important factor in evaluating an executive's job performance. Communications will be increasingly sophisticated, less blatantly propagandistic. A better educated workforce will require this.

Personnel makes the team

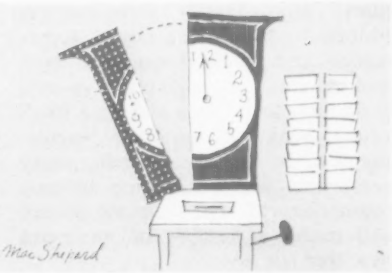
Personnel relations is maturing and gaining status as a general management function. Personnel executives will have greater responsibility for over-all company organization and will become management men, not simply specialists. More company presidents will have personnel backgrounds. Activities such as communications and management development will acquire departmental status. The sociological approach in human relations will be reappraised. Testing will continue to be a useful tool but not the total answer to all selection problems.

Yes, the 1960's are a challenge to personnel administration. The decade will bring problems—more and bigger than ever. The nostrum venders, the panacea peddlers will still be around with plenty of patent medicine to cure your employee relation ills—and separate you from your money. To deal with the industrial relations problems of the 1960's, you'll need not only foresight and flexibility but a healthy distrust of the patent-medicine approach to management headaches. —JAMES MENZIES BLACK

Labor losing political punch



Compulsory arbitration



Shorter workweek

GROWTH 1970 7. TARGET

Financing for Ten Years of Growth

WHERE are we going to get the money?

This is the question financial executives are asking as corporate budgets for expansion in the 1960's take shape.

Behind the question lies one basic fact: one of the stiffest areas of corporate competition in the decade ahead will lie in the money markets. Says David S. Meiklejohn, vice president and treasurer of American Machine & Foundry Company, "For manufacturing companies, financing will be management's biggest problem of the decade."

What will be the prime sources of capital funds? What financing techniques will be dominant? What role will the growing institutional investor pay? How eager will the people be to invest their savings in American industry? How tight is money going to be?

A financing forecast

Here are some of the answers given by leading experts in corporate finance and the money markets:

Expanding industry will depend heavily upon traditional sources of capital. Of total corporate expenditures, approximately three-quarters historically have come out of depreciation and retained earnings, one-quarter from external sources—new bond and stock issues and, to a small extent, bank and mortgage borrowing. But in the new decade, many companies will be looking to new sources as well. The financing picture will reflect a number of important new trends:

- More capital is expected to come from the private savings of America's growing middle-income population.
- There will be more joint ventures by companies pooling their financial resources to develop and launch new products or services. In the past, these joint ventures were undertaken primarily to pool technological know-how. In the future, the motive will frequently be financial.
- There will be greater pressure for tax reform, both to reduce personal and corporate income taxes and to release capital funds by liberalizing depreciation allowances.
- Leasing of plant and equipment will be a more prominent financing tool.
- Finally, more companies with global marketing ambitions will be building overseas in areas where materials and labor are cheaper and closer to the areas of consumption.

How much money will industry seek in the coming decade? In what kind of an economic climate will its quest be made?

In current dollars, projections of industry's capital needs approximate $500 billion by 1970. Whether companies will seek this much, or more, will depend upon the stability of the dollar and the Government's monetary and fiscal policies.

"People's capitalism" will continue to grow

"In a fundamental sense, the investment needed for growth can come only from private savings of individuals and businesses and from Government savings in the form of a surplus of receipts over expenditures," points out Howard Stein, director of research for the Committee for Economic Development. To get the growth of which we are capable, says Stein, "we need a budget policy that will yield a substantial surplus in times of prosperity."

The prime sources

If Stein is correct, most business investment will be from internal sources, most of the external financing will be done by borrowing, and most of the borrowing will be from financial institutions. "Even if inflation should continue," he believes, "it would probably have more effect on the yields of assets than on the division of new external financing between borrowing and stock issues. The same expectation that makes savers prefer to hold equities will make businesses prefer not to issue equities." But New York University's Dr. Marcus Nadler, dean of money market economists, believes that if inflation should become more of a threat, debt financing will become more difficult, hindering utility and public works growth.

Whatever their estimate of future inflationary pressures, most of the experts are convinced that the Government, through the Federal Reserve

Board, must—and will—exercise its power to slow or speed the increase in money supply as needed.

Given a relatively stable dollar, companies will probably raise their financial sights as the decade progresses. But, by and large, they expect to try to maintain a constant balance between equity and debt, with little concern over the cost of debt.

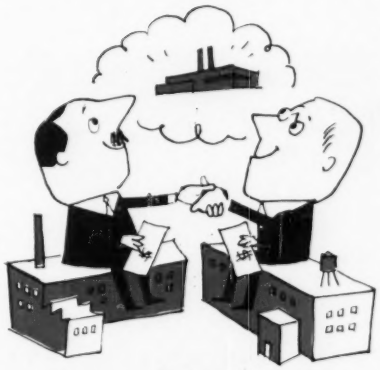
Like many other authorities, Edmond du Pont, senior partner of F. I. du Pont & Company, sees an important source of this new capital in the cash savings of individuals—which by 1965, it is estimated, will have increased from the current $90 billion to about $155 billion.

The New York Stock Exchange, evaluating the need for capital outlays by industry at least through 1965, estimates that approximately $200 billion must come from external sources, including new bond and

Companies will try to preserve current equity-debt ratios

common stock issues. This would mean issuing new common stock at more than twice the current rate, but Keith Funston, the Exchange's president, has little doubt that such volume can be absorbed. Says he: "If share ownership continues to grow at the same rate as in recent years, there will be 22 million shareholders by 1970 against today's 12.5 million."

While Funston envisions some $4.5 billion of new equity money annually, Herbert R. Anderson, president of the National Association of Investment Companies, asserts that $6 billion in new equity must be sought in each of the next ten years. He puts mutual fund assets at $40 billion by 1970, with 7 to 8 million mutual fund shareowners, as against current assets of $14.7 billion and current



Pooling of resources will bring more joint ventures

shareowners numbering 4.1 million.

Many of the larger corporations will be seeking their funds directly from the savings of individuals rather than concentrating on sales to institutions. O. Glenn Saxon, Jr., General Electric's investor relations consultant, says the big challenge in the next ten years is to get enough people to put their savings into equities. For the good of the economy, he believes, it is important not only to increase corporate capitalization by common stock offers but to double the number of shareowners.

Confidence that broader public share ownership will come is voiced by General Dynamic Corporation's chairman Frank Pace, Jr. Capital, he declares, "will be available—especially to those managements who demonstrate a willingness to explore, improve, and invent and who show a capacity to translate operations into a fair return to their shareowners."

Pace also thinks that "continued growth of pension funds and the expansion of institutional investors will also be an important source of capital funds."

A conservative view of pension fund growth is taken, however, by a well-known investment analyst, William Norby, vice president in charge of securities analysis for Chicago's Harris Trust & Savings Bank. With considerable past-service funding now complete, he questions whether pension funds in the next decade will continue to be relatively so important a source of new capital. "The most reasonable expectation," says Norby, "is that pension funds will continue to grow as wage levels increase and as benefits mount proportionately." But this growth, he feels, may not generate a higher total percentage of new capital in the years just ahead.

Although a great deal obviously depends on a high rate of personal savings, there is also a definite belief that corporations will be able to draw on internal resources to satisfy their capital needs to a larger extent in the years ahead. Predicts S. Clark Beise, president of the Bank of America: "During the 1960's, a greater volume of internal funds will be generated by increased depreciation allowances. This will come in part from the increased investment in capital goods against which depreciation is charged. Recent and probable further changes in tax laws permitting an acceleration in scheduling depreciation will also help, as will a shortening of the expected effective life of capital goods in line with anticipated technological advances. In addition, there may be increased savings through retained earnings which would contribute to the necessary capital needed."

Current depreciation regulations are at least partly responsible for the growth of industry's newest financial tool, the equipment leasing and the sale and leaseback of plant. Walter E. Heller, head of a company which specializes in this type of financing deals, predicts that a greater number of large companies will

FRB will carefully regulate the flow of funds

turn to leasing in the coming years.

From the perspective of 1959, industry's future financial problems are not insoluble. Confident of their own future and that of the economy, most companies will seek and get the funds they need for expansion. True, if current inflationary trends persist, they will have to pay the price. Yet still newer financial techniques may well be evolved to ease the financial executive's current headaches.

—FAYE HENLE

The Next Decade in Management

PETER F. DRUCKER

- *By 1970, an influx of "knowledge workers" will reshape the workforce and make unprecedented demands on management.*
- *In a decade of constant change, the company that seeks safety in stability will find itself in dangerous straits.*
- *Time-tested marketing structures will be severely shaken by the ever-increasing tempo of innovation.*
- *A well-designed, distinctive financial "product" will be needed to sell sophisticated customers in a tight capital market.*

FOR ANY ONE company at any given time in the next decade, there may well be a single, central problem of management. But every experienced manager knows that running a business is always a multi-dimensional job, that indeed the essence of management is the balancing of challenges and demands from many quarters.

In summing up the management outlook for the 1960's, I shall therefore touch on many problems, rather than attempt to discuss a central problem thoroughly. Actually, there are four main areas in which managers today might profitably prepare themselves for new challenges and new opportunities.

1. The greatest changes may well come in the structure of the American workforce and in the management and organization of people at work.

Managerial, professional, and technical people are by now the largest single group in the American labor force, far outnumbering the hourly-paid machine operators. They are also the fastest-growing group and may well double in number within the next decade. By the end of the 1960's, they will account for the bulk of American business' wage and salary bill. And by 1970, every other young man (and every third young woman) entering the labor force for the first time will have been to college and will therefore expect to move into technical, professional, or managerial work.

One effect will be an increasing rigidity of the cost structure of business. People who do "knowledge work" enjoy, by and large, high stability of employment. Their numbers do not fluctuate with production volume, except over fairly long time periods. Whereas "labor" is still considered by accountants and economists as a variable cost, it will become increasingly a fixed cost for the business man. Indeed, this is how personnel costs actually behaved during the 1957–58 recession.

Managers will therefore have to learn new ways of cost accounting—cost accounting, for instance, in which time periods, rate of utilization of capacity, and product mix, rather than "unit costs," are the basis of costing and pricing. We will also need much better controls over the size of technical, professional, and managerial staffs and of their composition. Otherwise, we shall run the risk of inflating during good times, only to find that we are stuck with unsupportable overhead when business turns down.

But the real problem will be the management of the knowledge worker. So far, we know what he costs, but we cannot measure what he contributes or what he should contribute. We have no gage of productivity for the research chemist, the wage and salary administrator, the quality-control man, the plant engineer, or division manager. Yet, clearly, the productivity and results of every business and of the entire economy increasingly depend upon the contributions of these people.

The manager faces equally difficult

Writer, philosopher, teacher, business man—Peter F. Drucker wears all these titles with distinction. As a management consultant, he advises a number of top companies on business policy and organization. As a teacher, he is professor of management and chairman of the Management Area at the Graduate Business School of New York University.

And as a writer, he is the author of many articles and books, among them *The Practice of Management* (which was serialized in DUN'S REVIEW in 1953), *America's Next Twenty Years*, and most recently, *Landmarks of Tomorrow*.

Mr. Drucker is a fellow of the International Academy of Management, and among his honors are the Parlin Medal of the American Marketing Association and the Gold Medal of the International University for Social Studies at Rome.

At not quite 50, Mr. Drucker can also look back on careers as a newspaper man, investment broker, and professor of philosophy. He is the father of four children.

and even more subtle problems in respect to treatment, pay, and promotional opportunities for the knowledge worker. Most of them are specialists concerned with a single field of knowledge. Yet, they must direct their work toward the common end of business performance and business results. They have to work as individuals; yet they must work together as a team. To be effective, they need a manager, just as the manager needs their knowledge and dedication to be effective in his work.

Effective personnel management of the knowledge worker may require as much study as has been devoted in the past 25 years to the personnel management of the manual and clerical worker.

A good many people in management are aware of these problems. But, thus far, very few managers anticipate the imminent shortage of skilled workers which, to a large extent, results from the shift to knowledge work.

The demand for people trained in manual skills is growing steadily. Popular myth to the contrary, mass production has not eliminated skill—it steadily calls for more skilled men. Automation, too, greatly increases the demand for skilled men. But the supply is shrinking.

Every conceivable approach to the solution of this problem involves abolition—or at least sharp modification—of time-hallowed craft jurisdictions, craft skills, craft pride. Any attempt to overcome the shortage of skilled workers will, therefore, create serious conflicts with the most powerful, most deeply entrenched, and most respected unions in the labor movement — electricians, typographers, machinists, and so on.

During the past 25 years, the industrial union has been the focus of labor policy, labor conflict, and management concern. In the next decade, the craft unions may become *the* labor problem for American management and for the American public. And, however successfully the problem is attacked, both the wages of skilled labor and the power of their craft unions are bound to rise for a long while ahead, even though the number of skilled men in the labor force—or at least their relative strength—may sharply decline.

2. An entirely different but no less serious challenge for the American manager lies in the increasing tempo of innovation.

Industrial research expenditures in this country now run around $5 billion a year—exclusive of defense-focused research. Thirty years ago, at the crest of the boom of the 1920's, the total industrial research budget of the country was well under $100 million. The real increase has occurred in the past five years—which means that the full impact of all this research is still ahead of us.

Even more important is the structural change in research efforts. Thirty years ago, industrial research was essentially confined to a few large companies in a handful of highly technical industries: the electrical industry, communications, the chemical industry, the pharmaceutical industry. Today, no industry is without major research efforts (and many small companies spend proportionately more on industrial research than do the giants). One of the outstanding research efforts of the past ten years was done not by a "growth" industry but by our oldest and most "mature" industry, cotton growers and spinners.

Again, the main impact of this change is still ahead of us—but not very far. Industry and marketing structures which most managers take for granted are likely to be severely shaken. Indeed, they are likely to be in a state of continuous flux.

Above all, managers will have to learn how to manage innovation. Where should innovation efforts be directed? How extensive and intensive should they be? What risks of innovation can a business afford to take? What are the risks it cannot afford to take, and which are the risks it must take, even though the odds against success may be astronomical?

And then there is the big job of making the results of innovation truly profitable.

3. This takes us into another problem area: marketing, especially the marketing of a new or improved product.

As everybody knows, infant mortality among new products is exceedingly high—seven out of ten fail to make the grade and either die outright or barely manage to cling to a disappointing and unprofitable life. At the same time, the cost of introducing new products is climbing steadily.

This is only one of our marketing

continued on page 57

PROBLEM: daily inventory control of 36,972 Behr-Manning products

ANSWER:

A Western Union Private Wire System

ADVANTAGES: Daily inventory checks *in writing* on everything and anything made by Behr-Manning Co., a Division of Norton Company. Included are complete lines of coated abrasives, floor covering products, sharpening stones, and pressure-sensitive tapes. Up-to-date accuracy that 16 branch offices and warehouses in 13 states can rely on. Customer sales orders—from Boston to San Francisco—now processed *in hours* instead of days. Administrative messages, to or from Troy, N. Y. Headquarters—sent or received in minutes . . . *in writing!*

WHAT DOES IT? A 5508-mile communications network, designed by Western Union engineers to Behr-Manning's specific needs. Typical day's volume is well over 100,000 words, transmitted at incredibly high speeds. Over-all result? Better, faster service for every Behr-Manning customer!

HOW ABOUT YOUR COMPANY? Your own Western Union Private Wire System can help speed up order processing, control inventories, administer a thousand-and-one details with error-proof *written* accuracy. And the savings are surprising. Want more facts? Wire collect to: Western Union, Private Wire Division, New York, N. Y.

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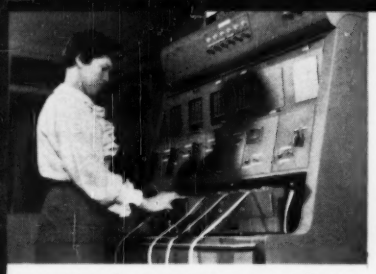
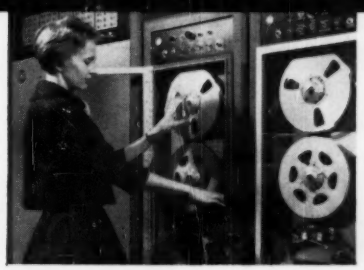
INVENTORY CONTROL — THE FAST, EFFICIENT BEHR-MANNING WAY



(1) SALES ORDERS, received at branch offices, sent in minutes to Headquarters Switching Center.



(2) QUANTITY AND ITEM DATA, automatically fed from computer to tape for precise inventory control.

(3) PWS MESSAGES make stock status immediately available to branch offices and warehouses in 13 states.

the Central's service doesn't end when the site is chosen

For the company seeking a new location, the New York Central's Industrial Development Department offers an exceptionally complete information service. On hundreds of carefully selected sites, detailed data has been assembled covering available labor, taxes, water, utilities, transportation, living conditions.

The cross-indexed file helps you narrow down the choice to those that most exactly meet your needs. Then specialists on the Central's staff, with their intimate knowledge of local conditions can aid you in the final selection.

But the service doesn't stop there. Out of the Central's broad connections and long experience, you can draw aid and advice on financing, engineering, local contacts, water treatment—countless other problems that may arise. As an example, when a new plant found the municipal water supply was inadequate for its needs, the Central's Industrial Development people were able to persuade the city to build a new main which provided a dependable supply.

For further information on what the Central is prepared to do to help you find the best possible site and to get into profitable operation there, just write or phone: Otto W. Pongrace, Director of Industrial Development, Department E, New York Central Railroad, 466 Lexington Avenue, New York 17, N. Y.

Locate your new plant on the Central and get the advantages of Early Bird fast freight and Flexi-Van rail-highway service.

problems, of course. But it highlights three characteristics that are common to most of the marketing tasks we face: lack of knowledge, inadequate control, and mounting costs.

More people are today employed in the distributive process than in manufacturing and agricultural production combined. This is one of the major structural shifts of the American economy during the past 30 years. Since the people in distribution get the same income as the people in production, the distributive sector of the economy disposes of a bigger share of the national income than does the productive sector. But what about the productivity, the efficiency, and the effectiveness of our distribution system? Has it risen as fast as productivity in production? That is, are the factors that justify the higher income of the people engaged in production paralleled in distribution? Nobody can answer this question today. That advertising, for instance, is more "magic" than science, every business man has found out. Yet advertising is essential to mass marketing. And we know almost as little about pricing.

The special challenge of the 1960's will be top management—its job, its structure, and its competence.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Unless the efficiency and productivity of distribution rise as fast as the productivity and efficiency of production, higher wages inevitably create inflationary pressure. If we in America suffer from a "wage-push" inflation, it is largely because wages in distribution are outracing productivity.

Even more important, perhaps, managers in general—and especially top management people—must learn to apply a marketing focus and a marketing orientation to their own work. Most managements today are still product or process-focused. They see the job of marketing as "selling what the plant produces." Comparatively few fully appreciate as yet that it is equally the job of the plant to produce what the market, and especially tomorrow's market, wants to buy.

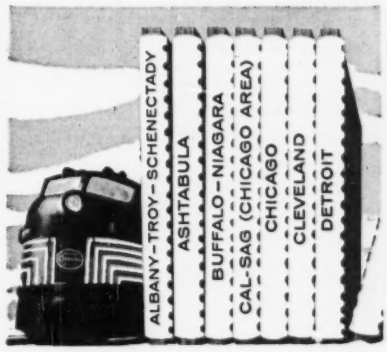
Even fewer understand that what the consumer buys is not a product but the use he gets out of a product. *What the consumer buys and what the business produces are therefore different.* To the consumer, for instance, the manufacturer's costs are quite irrelevant: the consumer's concept of price is based on what he expects to get out of the product rather than what the manufacturer puts in.

The American market of the 1960's is indeed a most promising market. But it will also be a tricky, if not a treacherous one. High income for large numbers means both greater capacity to buy and greater capacity to switch preferences, to change habits, to postpone purchases. The automobile and appliance slump of 1957-58 in the midst of record consumer income and consumer spending showed the fickleness of market and consumer behavior. To be sure, there will be more families with more money, but there will also be changes in people's desires and tastes. Consider, for example, the undoubted decline in the prestige value of the automobile. To what extent is it due to the emergence of an even more expensive "consumer durable"—college education for the children—as a major prestige and status symbol for the masses? Social changes in the American society may well have as much impact on an individual business as technological change in products and processes.

4. The final area likely to produce new challenges within the manager's daily compass is financial policy.

During the next decade, we are almost certain to face capital shortages. This will result partly from the sharp growth in the number of families in the country and the resulting demand for all kinds of community services, from housing to hospitals and roads. It will result in part from the tremendous accumulated replacement needs of American industry, which is becoming an old-equipment industry. (See "Cobwebs on the P & L Statement," DUN'S REVIEW, September 1958—ED.) It will also result from the capital demand arising out of innovation. Only disarmament on a global scale could change this.

At the same time, capital accumulation is increasingly concentrated in the hands of professional trustees: pension funds, mutual or personal in-



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Each of these area brochures contains a wealth of information on such subjects as available labor, transportation, raw materials, local government and taxes—together with a listing of some selected plant sites, complete with contour maps and aerial photographs.

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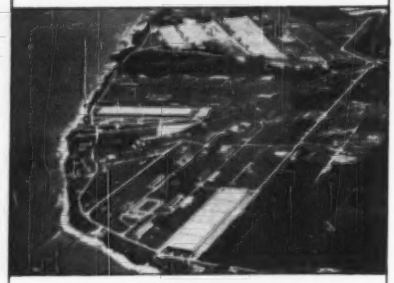

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972.3 Acre Peninsula on Hampton Roads
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Marford, a former Marine Forward Depot-Annex, contains 160 buildings, 89 of which are 1-story warehouses. Two of these provide 200,000 sq. ft. of space each. The remainder are administrative, residential and maintenance structures. Marford is self-contained with its own water, sewerage, heating and telephone systems and a stand-by electrical plant. The site was efficiently deactivated and maintained in an excellent state of repair. A nine-mile railroad network blankets the property, providing rail access to every warehouse. Twelve miles of hard-surfaced roads serves the peninsula. A 550-ft. pier leading to deep water can relay cargo into the main shipping channel.

Located at the geographic mid-point of the Atlantic Coast, this site is within overnight distance to ¾ of the nation's population. Nine railroads serve the area; fifty common carriers, numerous contract lines, three air lines, two bridge-tunnel systems, state, interstate and national highways. Tidewater ranks 5th among the top 25 southern markets and 27th in the nation. The population exceeds 780,000. Manufacturers enjoy a favorable industrial climate and are welcomed and assisted by government and private agencies.

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vestment managers, insurance companies, and so on. It is largely through these that the individual business increasingly will have to find access to the capital market, and not only for equity capital.

This will put an increasing premium on financial planning to ensure that the financial structure of a business is suited to its needs and economic characteristics. It will put increasing pressure on financial management to see that all capital funds are fully utilized, whether they are obtained from the outside or from retained earnings.

And it will increasingly require that companies develop a distinct and marketable financial "product" of their own, which will enable them to offer the financial satisfactions that fit the needs, wants, and expectations of the increasingly sophisticated, increasingly professional customers in the capital market—the professional trustees for other people's money.

Thus far, we have considered the new challenges and opportunities managers face within their own business and within the domestic economy. But two external developments of major importance can also be foreseen—developments of direct impact on managers.

Bigness in business is likely to be increasingly a problem of public policy in this country.

By and large, big business has been accepted as necessary, though not perhaps by everybody as desirable. But now we are asking new questions: What is the specific excellence and contribution of bigness? What is bigness really suited for? What are its limitations, what are its strengths and weaknesses? How big can a business grow and still be manageable? How diversified can it get and still be an organic whole? What should its relations be with the small business it must live with as competitor or partner? In sharp contrast to earlier times, these questions are today increasingly asked within big business itself and by managers.

There is growing concern about the limits of bigness within management. Many companies feel that over the past ten years they have overdiversified to the point where they may be in danger of losing their unity. Some thoughtful managers also feel that our biggest companies are in danger of getting too big to be effectively managed under existing concepts of organization and with our existing tools of communications and control.

Bigness today is not peculiarly a problem of business. On the contrary, big organizations pervade our entire society: big business, big labor, the big—and almost unmanageable—armed forces, the sprawling metropolitan areas in which more and more of our population lives, the growing civil service—even universities are getting much too big to be manageable, let alone be "communities of scholars." The business world is distinguished primarily by the existence of so many thriving and growing small units—which in many cases, as we are beginning to realize, exist *because* of big business which enables them to gain access to the national market or to exercise their own specialized production skills.

Yet, if only for traditional reasons, discussion is almost certain to be focused on bigness in business. Unlike earlier talk about the "evil of bigness," this new discussion deals with a real problem. Managers—and especially big-business managers—had better take the lead in this debate. If they take a purely negative line and regard any questioning of bigness in business as an expression of ignorant hostility, we are likely to be saddled with public policies that do reflect hostility to business and thereby damage American business and the economy. But if managers address themselves seriously to the problem, we can develop policies that not only benefit business and the American economy and society but help us live with all the great aggregations of organized power that compose the central institutions of modern society.

The crucial test of our domestic economy is its ability to compete internationally.

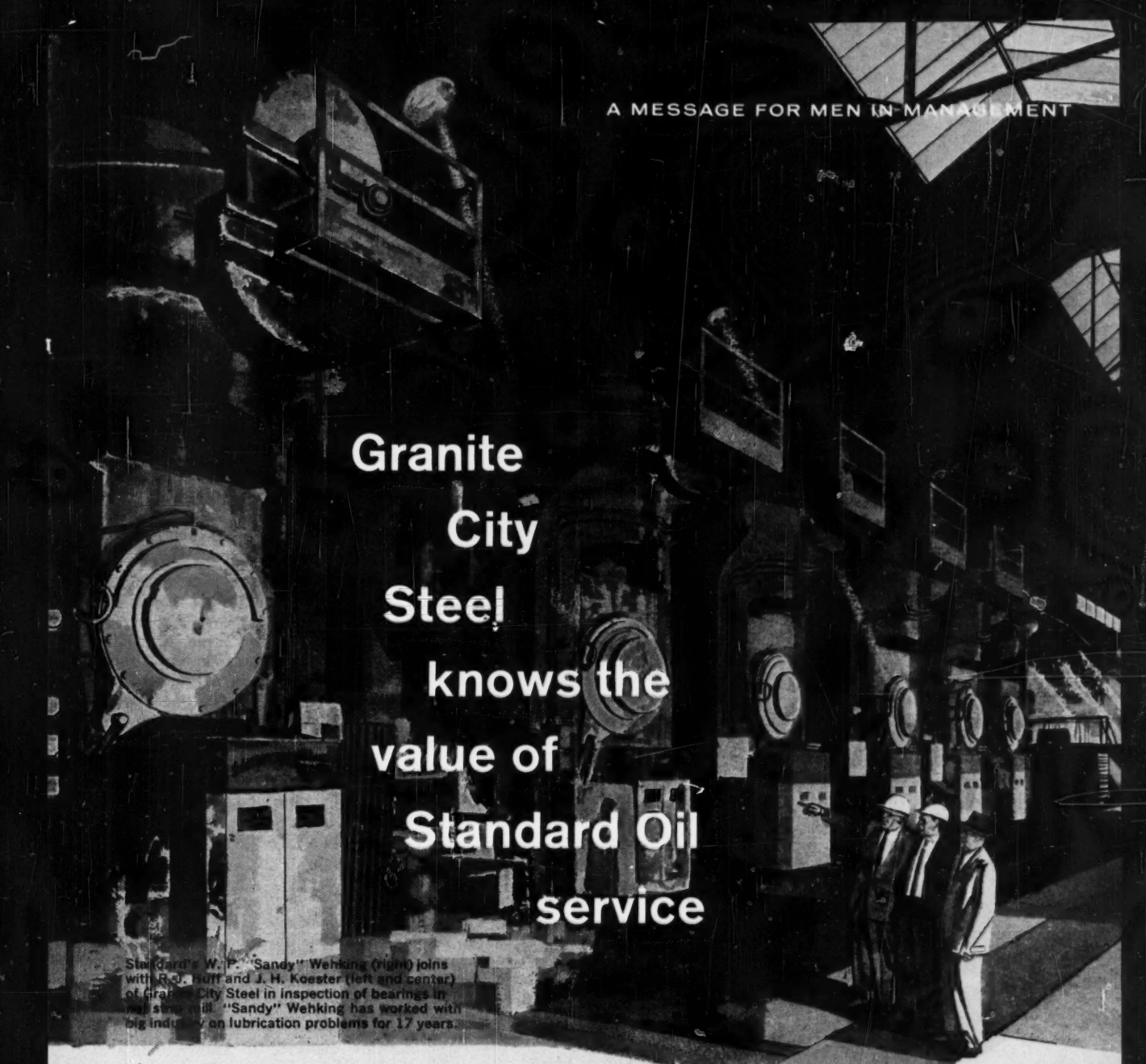
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

During the next decade, the international economy is likely to loom larger in the work and the thoughts of American managers.

Many companies will be actively connected with it—as exporters or importers, through subsidiaries or

A MESSAGE FOR MEN IN MANAGEMENT

Granite City Steel knows the value of Standard Oil service



Standard's W. P. "Sandy" Wehking (right) joins with R. O. Huff and J. H. Koester (left and center) of Granite City Steel in inspection of bearings in [illegible] mill. "Sandy" Wehking has worked with big industry on lubrication problems for 17 years.

Bearings in part of Granite City Steel's hot strip mill are capable of carrying loads of more than three million pounds. These bearings ride on an unbroken film of oil. The oil, which is Standard's STANOIL Industrial Oil, must maintain its viscosity within narrow tolerances to assure proper operation of the mill throughout the speed range. STANOIL Industrial Oil has been delivering superior performance in this job for more than 22 years. The oil has met the increasing demands placed upon it as, through the years, the average production of the mill has risen to approximately 1,800 tons per shift.

An experienced Standard Oil industrial lubrication specialist calls on Granite City Steel to watch over the performance of Standard Oil products used in the mill. Samples of STANOIL are taken for laboratory analysis at regular intervals. Stocks of STANOIL are maintained at a Standard Oil warehouse just 12 miles from the plant so that emergency as well as normal requirements can be met at a moment's notice.

As a management executive, perhaps you may want to know about Standard Oil's ability to serve your plant with petroleum products and technical service anywhere in the 15 Midwest or Rocky Mountain states. An industrial lubrication specialist is located in each of the 48 Standard Oil district offices. Telephone him. Or write **Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.**

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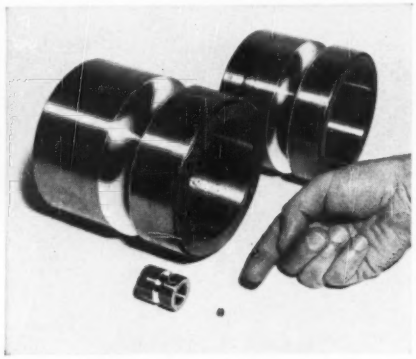
Bearing loads and speeds, in common use today, demand critical bearing surfaces that are accurate, have correct geometry and proper surface finish. Also, the process that generates these surfaces must keep production costs to a minimum.

MICROHONING INCREASES PRODUCTION

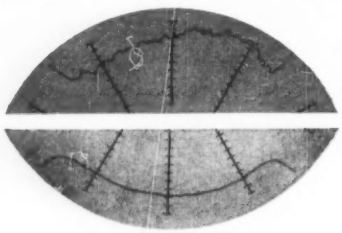
Microhoning is the first successful method for automatic processing and handling of raceway rings on multiple machines. It increases production several times over output of former methods.



Raceways of inner and outer rings for ball diameters ranging from .062" to 1.50" are currently being Microhoned.

MICROHONING IMPROVES BEARINGS

The ability of Microhoning to greatly improve the functional characteristics of critical bearing surfaces is even more significant. For instance . . . quieter-running, longer-life ball bearings are obtained because Microhoning of races assures:



Comparative Talyrond charts—each division of radial lines equals 50 millionths of an inch. Top: raceway curvature of a finished, unhoned precision bearing. Bottom: curvature of Microhoned raceway.

1 Improved concentricity between raceway and bore;

2 Removal of humps in raceway and trueing of plane of track;

3 Correct track curvature for greater contact with balls;

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Critical checking on precision instruments, and comparative performance studies have convinced many bearing makers and users that Microhoned bearings run smoother, quieter, and longer than those processed by any other method.

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license agreements. Even more will become aware of competition from abroad, both in foreign and the domestic markets—competition in quality and technological leadership, based upon high engineering and managerial skills and produced by the most modern equipment, if not with a higher degree of mechanization and automation than our own.

But perhaps the greatest challenge in the international economy will be a challenge to the basic attitudes of the American business man. He will have to learn increasingly—as his counterpart in Western Europe learned long ago—that the crucial test for our domestic industry is its ability to compete internationally. Ability to pay for imports, especially growing imports of industrial raw materials, will increasingly become an absolute requirement for our own country's economic growth.

Most American business men still believe, if perhaps only subconsciously, the slogans of the 1940's: American productivity and know-how lead the world; other countries need American goods more than we need theirs; the "dollar gap" is a law of nature. But the realities of the 1960's are entirely different realities.

Needless to say, union leaders too will have to face them, and so will our politicians. Both will find them even harder to accept than managers do. But again, it is management that must take the lead.

Tools of tomorrow

In dealing with their new tasks, the managers of the 1960's will to a large extent have to employ the same tools they are using today. But managers will also find, increasingly, that they are expected to know, understand, and handle new concepts and tools of management. Increasingly, they will find that they are expected to use systematic methods of analysis and decision making, supplemented by new tools of communication, computation, and presentation.

Executives can safely disregard all the fanciful talk about the computer "replacing managers" and "making decisions." Managers' work, it can be said with confidence, is going to become more important and their numbers larger. But the "management sciences"—such as operations research or decision-making logic—and the new electronic tools and systems are going to make a difference,

even to the manager in the small business.

And the manager of 1970 will need all the help he can get from such new concepts and tools. For his job is going to be so complex, so big, so demanding as to require all the tools of simplification and systematization that can possibly be obtained.

What all this adds up to is a special challenge to top management.

Fifteen years ago, right after World War II, the first-line supervisor was the main concern of management. Supervisory training programs, supervisory human relations programs, and so on, were all the rage. During the past few years, the spotlight has shifted to middle management—for whom, for instance, most of "management development" programs are designed. During the next decade, our concern is likely to shift to top management—its job, its structure, its leadership, and its competence.

The challenges and opportunities I have outlined are above all challenges and opportunities for top management. They are primarily "policy" problems rather than technical matters. All require leadership and hard work on the part of top management people.

But the next decade will also see the greatest turnover in top management personnel we have seen in a long time. Our top managements today are, on the whole, older than they have ever been before in American business history—with almost two-thirds of top management people over 55 and therefore likely to retire between now and 1970.

A new generation

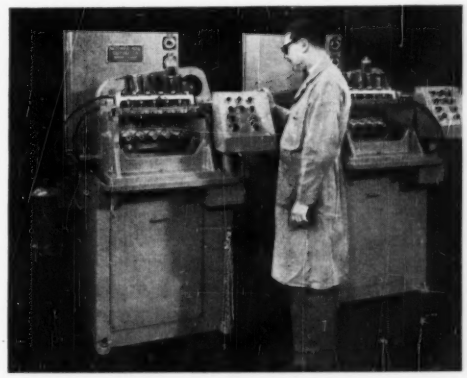
The men who will retire, by and large, began their business career in the boom years of the 1920's and moved into management during the depression years. But their successors will be largely men who did not even start in business until after World War II, men to whom even the depression is only a dim childhood memory. It is this generation, as yet untried, that will face the new challenge and will have to prove itself worthy of the new opportunities.

Perhaps, after all, the next decade does confront American business with one central management problem. This problem is top management itself: its seriousness, its vision, its competence, knowledge, values, and leadership. END

HOW MICROHONING* OF CRITICAL BEARING SURFACES ASSURES QUIETER-RUNNING, LONGER-LIFE

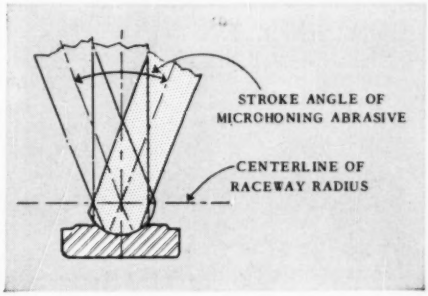
Because Microhoning is the first successful method for automatic processing and handling of anti-friction raceway rings on multiple spindle machines, production is several times higher than former methods.

In addition, here's how application of basic Microhoning principles (a combination of motions, low-velocity abrading, controlled pressure, float in tool) improve the functional characteristics of bearings: concentricity, track curvature, waviness, accuracy, surface finish.



Typical five-spindle machines for Microhoning bearing raceway. Typical production: bring high-band reading (Waveometer) of raceway waviness below one microinch, rms . . . five rings in a 20-second cycle.

Tools are positioned on an oscillating bridge so that abrasive sticks pivot about the centerline of raceway arc to generate a true radius. As rings rotate, irregularities are removed from track leaving a clean surface that is free of smeared or deformed metal. During final seconds of Microhoning cycle, speed of oscillation is automatically reduced to generate a lay pattern that runs circumferentially around the track.



Because abrasive stick pivots about centerline of raceway while rings are rotating, Microhoning improves raceway curvature, waviness, surface roughness and lay.

Microhoning technique can also be applied to raceways of cylindrical roller, tapered roller, needle, thrust and self-aligning bearings . . . also, other critical bearing surfaces.

For further information, write to:

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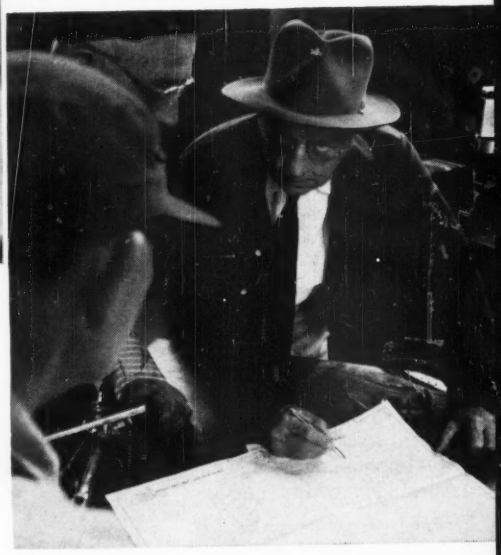
MICROMATIC HONE CORP.
8100 SCHOOLCRAFT AVENUE • DETROIT 38, MICHIGAN

"We've held our



competitive lead with USS 'T-1' Steel"...

Says Mr. Newman Ward, who is president of the Electric Steel Foundry Company, Portland, Oregon. "We're a big producer of dragline buckets, probably the most used and abused implements in strip mining. On 90% of the strip mine operations, a bucket is in continual use 24 hours hours a day, 7 days a week. If it's down for repairs, the owner loses about $1000 an hour.

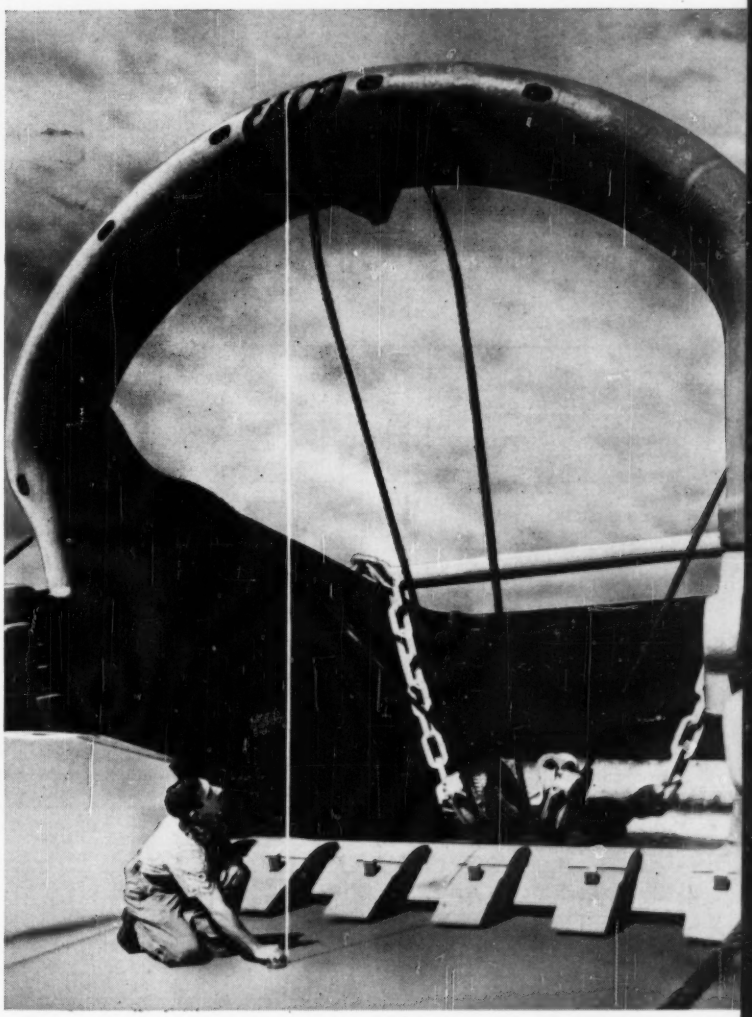
"We used to fabricate the baskets of these buckets of mild steel in extra heavy gages to try to match the high strength and shock resistance of our ESCO alloy lip and arch castings. Even so, buckets were down for repairs of the bodies too much of the time. We needed a stronger, tougher steel for this bruising work. USS 'T-1' Steel was the answer. Because it's three times stronger than mild steel, we've been able to combine it with our castings and make our buckets much lighter and increase their yardage capacity by 10%. Downtime for buckets using 'T-1' steel is the lowest our customers have ever seen.

" 'T-1' steel has enabled us to design a superior product. Without it we wouldn't have been able to maintain our lead in today's competitive market."

Why not get the facts on how USS "T-1" Constructional Alloy Steel can help boost the sales of your products. "T-1" Steel's great strength (100,000 psi minimum yield strength) helps trim costly dead weight from all kinds of equipment, mobile or stationary. USS "T-1" Steel stays strong and tough in applications down to 50° below zero—and it can be welded, flame-cut and worked with the usual shop equipment. Its outstanding resistance to impact abrasion, when furnished to 321 minimum Brinell hardness, increases service life as much as 10 times in abusive applications.

Write today for our "T-1" Steel book which contains complete information. United States Steel, Room 2801, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS and "T-1" are registered trademarks



This is the world's largest dragline bucket. It has a 35½-cubic-yard capacity... was built lighter, yet more rugged, by ESCO using USS "T-1" Steel.

United States Steel Corporation – Pittsburgh
Columbia-Geneva Steel – San Francisco
Tennessee Coal & Iron – Fairfield, Alabama
United States Steel Supply – Steel Service Centers
United States Steel Export Company

United States Steel

14 IMPORTANT RATIOS in 36 Manufacturing Lines

Compiled annually under the direction of Roy A. Foulke, vice president of Dun & Bradstreet, Inc., the Fourteen Important Ratios offer a useful, though not an absolute, yardstick for financial self-appraisal by management. Definitions of the terms used in calculating the ratios will be found on page 90.

Line of Business (and number of businesses)	Current assets to current debt	Net profits on net sales	Net profits on tangible net worth	Net profits on net working capital	Net sales to tangible net worth	Net sales to net working capital	Collection period	Net sales to inventory	Fixed assets to tangible net worth	Current debt to tangible net worth	Total debt to tangible net worth	Inventory to net working capital	Current debt to inventory	Funded debts to net working capital
	Times	Per cent	Per cent	Per cent	Times	Times	Days	Times	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
FOR 36 MANUFACTURING LINES—1958 MEDIANS AND QUARTILES														
Airplane Parts and Accessories (38)	2.53	6.02	18.57	30.44	6.02	10.20	36	8.1	28.0	42.9	67.7	71.6	94.5	13.7
	1.62	**2.60**	**12.10**	**19.91**	**4.37**	**7.09**	**43**	**6.4**	**40.6**	**75.7**	**105.0**	**118.2**	**113.7**	**56.1**
	1.36	1.14	4.75	7.45	3.01	3.86	56	4.3	69.4	129.2	200.7	170.8	166.1	97.1
Automobile Parts and Accessories (71)	4.01	4.15	10.36	19.85	3.20	5.91	34	7.1	29.4	18.6	29.9	47.2	56.0	7.4
	2.80	**2.53**	**6.18**	**12.29**	**2.02**	**3.85**	**42**	**5.9**	**43.7**	**29.5**	**45.8**	**77.7**	**83.9**	**30.8**
	2.07	0.32†	0.64†	0.96†	1.60	3.03	54	4.9	61.5	61.1	82.5	106.5	109.2	48.7
Bedsprings and Mattresses (63)	6.63	2.44	6.78	11.57	4.43	13.83	30	11.1	15.6	12.8	32.7	43.7	37.2	11.5
	4.03	**1.37**	**4.66**	**6.65**	**2.80**	**4.36**	**37**	**8.1**	**25.0**	**22.1**	**54.3**	**64.7**	**62.6**	**32.7**
	2.22	0.19†	0.77†	2.77†	2.61	3.87	55	5.0	36.9	49.0	130.6	92.4	102.8	50.1
Bolts, Screws, Nuts, and Nails (56)	6.35	4.45	7.94	15.80	3.25	5.92	31	9.2	39.4	14.7	31.7	48.5	43.4	27.1
	3.37	**2.12**	**4.04**	**10.57**	**2.24**	**3.55**	**35**	**5.5**	**55.4**	**21.1**	**48.5**	**69.9**	**67.1**	**36.7**
	2.27	2.70†	4.05†	6.20†	1.50	2.75	43	4.1	74.2	39.2	115.6	93.0	135.1	53.5
Breweries (38)	3.84	4.10	12.23	38.94	2.99	14.18	11	24.2	51.3	12.1	23.8	30.3	83.6	17.2
	2.71	**2.13**	**4.27**	**12.47**	**2.41**	**9.14**	**22**	**16.8**	**67.6**	**18.4**	**37.5**	**47.4**	**116.7**	**53.8**
	1.87	0.79†	2.82†	13.37†	1.84	5.96	37	13.1	82.7	27.7	66.1	74.5	197.1	122.5
Chemicals, Industrial (67)	3.49	5.68	11.71	30.66	3.16	7.67	33	11.4	32.1	18.1	46.3	43.9	71.2	25.5
	2.60	**3.75**	**8.88**	**18.03**	**2.06**	**4.69**	**39**	**7.5**	**55.0**	**31.2**	**59.0**	**63.8**	**102.7**	**53.2**
	1.81	2.21	5.08	9.27	1.43	3.08	47	5.9	83.8	47.6	88.1	99.0	153.4	104.6
Coats and Suits, Men's and Boys' (190)	4.30	1.74	6.62	7.43	5.63	6.69	26	9.2	3.0	26.9	52.7	43.6	53.2	8.5
	2.53	**0.70**	**2.81**	**4.36**	**4.04**	**4.88**	**53**	**6.8**	**6.6**	**57.8**	**84.9**	**73.8**	**82.7**	**17.5**
	1.89	0.01	0.04	0.21	2.59	3.08	75	4.9	16.7	107.3	152.9	98.7	145.5	26.6
Coats and Suits, Women's (81)	2.67	3.32	17.13	19.38	8.61	11.63	23	15.7	4.2	45.9	109.4	44.7	78.2	12.1
	1.84	**1.07**	**8.95**	**12.65**	**5.20**	**7.32**	**39**	**9.4**	**7.3**	**94.2**	**130.9**	**76.9**	**124.5**	**25.7**
	1.51	0.22	0.75	0.91	4.23	4.67	51	5.4	14.8	133.7	200.9	136.5	184.2	33.6
Confectionery (41)	4.34	3.04	12.48	23.99	6.10	15.08	19	16.2	32.4	15.2	32.5	46.5	43.7	9.5
	2.83	**2.40**	**7.95**	**16.40**	**2.96**	**6.36**	**26**	**10.7**	**39.8**	**23.6**	**48.5**	**70.7**	**68.9**	**24.1**
	1.99	1.10	3.03	9.85	2.27	5.23	43	6.9	61.0	47.4	65.1	93.6	105.4	41.8
Contractors, Building Construction (168)	2.40	2.55	16.32	23.45	9.52	13.23	*	*	8.4	46.5	66.5	*	*	7.2
	1.81	**1.46**	**9.48**	**15.18**	**6.52**	**8.84**	*	*	**20.0**	**75.2**	**82.9**	*	*	**17.9**
	1.41	0.54	2.63	5.56	4.30	6.42	*	*	37.5	145.7	197.6	*	*	38.0
Contractors, Electrical (49)	4.03	4.79	19.22	27.25	7.16	10.24	*	*	9.5	22.0	54.9	*	*	11.0
	2.80	**1.94**	**9.28**	**10.47**	**4.91**	**5.43**	*	*	**19.9**	**44.3**	**68.4**	*	*	**24.2**
	1.50	0.82	2.76	3.14	2.52	3.16	*	*	28.1	94.6	132.7	*	*	41.3
Cotton Cloth Mills (43)	7.90	2.93	4.41	11.33	3.40	7.08	24	5.4	35.5	8.5	26.4	61.3	21.8	18.8
	5.21	**1.69**	**2.59**	**4.70**	**1.73**	**3.90**	**38**	**4.5**	**47.4**	**13.7**	**35.0**	**78.5**	**47.3**	**27.1**
	2.29	0.47†	0.54†	2.61†	1.41	2.60	41	3.3	65.9	28.7	76.6	97.8	59.5	44.6
Cotton Goods, Converters, Non-Factored (38)	5.98	2.39	7.89	10.41	4.44	4.54	24	5.4	0.4	18.5	115.7	63.5	33.8	5.1
	2.43	**1.20**	**3.89**	**6.97**	**3.20**	**3.70**	**45**	**4.7**	**1.3**	**40.7**	**135.9**	**78.0**	**70.2**	**25.4**
	1.74	0.55	1.74	1.34	1.74	1.87	73	2.2	4.4	111.4	228.0	98.4	135.5	68.5
Dresses, Rayon, Silk, and Acetate (86)	2.98	0.72	8.71	16.73	14.96	24.60	28	22.5	4.2	39.5	39.5	33.3	95.0	5.8
	1.76	**0.26**	**2.92**	**3.35**	**11.22**	**14.60**	**34**	**14.8**	**9.0**	**90.2**	**112.2**	**76.1**	**166.9**	**39.9**
	1.43	0.05	0.54	0.62	7.52	8.39	48	10.2	15.6	172.1	323.5	119.7	273.8	71.6
Drugs (43)	4.58	13.27	21.89	37.67	2.54	4.20	36	7.6	24.8	16.6	35.0	44.0	52.8	10.1
	3.15	**10.53**	**17.09**	**32.63**	**2.01**	**3.15**	**44**	**5.8**	**37.4**	**27.5**	**51.7**	**54.6**	**76.7**	**19.4**
	2.36	4.32	9.64	13.11	1.33	2.26	63	4.7	47.7	39.4	84.3	80.1	117.8	35.3
Electrical Parts and Supplies (75)	4.25	5.48	13.45	22.35	3.15	6.10	31	6.5	22.5	16.6	36.6	55.7	43.1	13.1
	3.31	**3.09**	**8.11**	**10.46**	**2.48**	**3.76**	**41**	**4.7**	**34.7**	**30.2**	**65.0**	**77.8**	**62.8**	**30.4**
	2.01	1.57	3.06	4.95	1.71	2.67	49	3.6	52.8	50.9	109.1	97.2	93.7	59.1

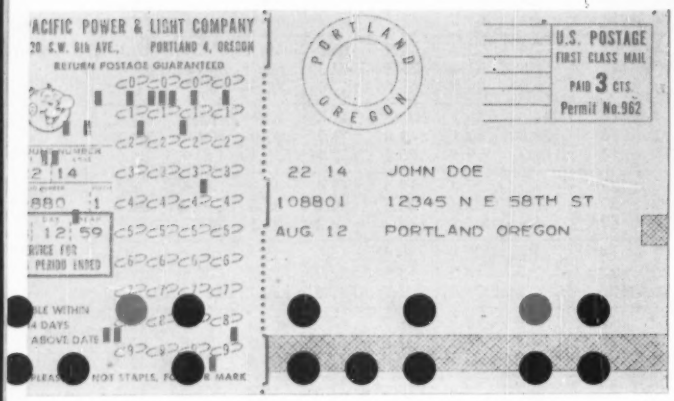
Line of Business (and number of businesses)	Current assets to current debt	Net profits on net sales	Net profits on tangible net worth	Net profits on net working capital	Net sales to tangible net worth	Net sales to net working capital	Collection period	Net sales to inventory	Fixed assets to tangible net worth	Current debt to tangible net worth	Total debt to tangible net worth	Inventory to net working capital	Current debt to inventory	Funded debts to net working capital
	Times	Per cent	Per cent	Per cent	Times	Times	Days	Times	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Foundries (106)	5.65	4.66	10.25	17.50	3.20	5.43	29	12.0	34.9	12.4	29.5	32.4	47.0	16.3
	3.63	**2.33**	**3.69**	**8.63**	**2.20**	**4.05**	**36**	**7.2**	**47.3**	**20.1**	**40.6**	**48.9**	**75.8**	**26.2**
	2.47	0.04	0.07	0.34	1.60	2.87	46	5.3	63.3	32.8	52.6	77.9	130.1	39.3
Furniture (141)	5.08	3.07	9.25	13.92	3.72	5.70	43	8.6	16.7	15.6	47.7	44.1	42.7	8.7
	3.24	**1.79**	**5.63**	**8.90**	**2.78**	**4.27**	**48**	**6.2**	**29.8**	**28.8**	**54.8**	**68.2**	**67.4**	**26.9**
	1.94	0.50	0.77	2.53	2.22	2.80	58	4.6	47.7	55.4	96.3	108.3	103.9	45.5
Hardware and Tools (100)	5.27	4.89	11.22	17.29	2.91	4.96	33	6.9	25.6	14.8	36.2	49.2	37.6	15.5
	4.07	**3.23**	**6.98**	**11.00**	**2.03**	**3.42**	**42**	**4.6**	**37.0**	**23.5**	**52.0**	**67.6**	**58.6**	**34.8**
	2.51	0.81	1.54	5.11	1.64	2.60	49	3.4	56.5	35.0	86.2	92.3	92.1	57.7
Hosiery (71)	6.02	3.48	6.62	14.50	3.16	6.82	35	8.2	28.5	9.9	68.0	47.7	27.9	6.1
	3.52	**1.11**	**3.95**	**7.78**	**2.20**	**4.08**	**41**	**5.2**	**41.8**	**20.4**	**92.4**	**68.3**	**58.8**	**45.6**
	2.21	0.36	0.84	1.45	1.48	2.58	47	4.0	59.9	39.7	177.9	98.5	109.1	82.8
Lumber (74)	5.39	5.82	10.12	31.55	3.24	6.27	27	7.5	20.8	10.6	35.7	55.8	35.5	26.7
	3.51	**3.30**	**7.67**	**13.71**	**2.29**	**3.67**	**38**	**5.9**	**37.0**	**18.9**	**56.4**	**75.3**	**55.8**	**51.4**
	2.06	1.14	2.37	5.19	1.10	2.73	47	4.0	59.5	47.8	80.8	107.0	91.2	90.0
Machine Shops (145)	6.49	4.53	8.98	18.07	2.12	5.17	27	13.1	32.3	10.3	26.5	33.4	35.5	14.3
	3.93	**2.38**	**3.91**	**6.11**	**1.56**	**3.28**	**40**	**4.9**	**44.8**	**17.8**	**33.8**	**60.2**	**67.3**	**34.4**
	2.14	1.51†	1.66†	2.37†	1.30	2.10	52	3.3	63.1	33.1	57.9	84.4	135.9	54.8
Machinery, Industrial (358)	5.90	5.21	10.03	15.74	2.75	4.34	33	7.4	22.7	14.4	33.5	45.3	36.5	10.1
	3.68	**2.98**	**6.16**	**9.59**	**2.04**	**3.07**	**47**	**4.6**	**32.4**	**25.5**	**49.3**	**63.7**	**66.8**	**23.0**
	2.39	0.48	1.01	2.12	1.54	2.30	61	3.5	45.6	43.5	82.0	82.4	102.2	40.8
Meats and Provisions, Packers (68)	2.96	1.56	10.98	38.87	12.71	34.37	9	37.5	43.1	25.2	47.4	47.1	62.9	23.0
	1.99	**0.58**	**5.57**	**12.99**	**9.68**	**20.32**	**10**	**26.0**	**62.9**	**41.0**	**71.7**	**87.0**	**104.8**	**52.2**
	1.60	0.25	2.37	5.75	6.64	14.78	12	19.8	79.5	60.1	122.4	126.1	170.0	85.6
Metal Stampings (91)	5.26	3.86	9.21	16.58	2.75	6.30	27	8.7	27.4	12.5	39.4	41.9	45.5	9.6
	3.31	**1.54**	**4.44**	**8.64**	**2.33**	**3.78**	**37**	**6.8**	**42.3**	**22.5**	**59.1**	**60.6**	**69.9**	**34.1**
	2.24	1.63†	2.91†	5.52†	1.47	2.59	52	4.3	65.2	38.2	79.2	99.5	115.2	86.8
Outerwear, Knitted (68)	3.42	1.96	10.84	24.24	8.82	17.01	14	11.8	2.8	30.6	66.7	38.4	62.4	2.5
	2.20	**0.96**	**5.27**	**8.25**	**5.46**	**8.87**	**28**	**7.4**	**14.3**	**55.5**	**82.7**	**72.3**	**100.1**	**27.4**
	1.65	0.27	1.34	1.61	3.57	5.95	55	4.8	31.2	101.9	132.6	110.7	167.4	54.7
Overalls and Work Clothing (57)	5.75	3.06	9.73	13.09	4.14	5.88	30	6.2	9.2	16.7	47.9	64.2	31.4	12.5
	3.36	**2.01**	**5.88**	**7.14**	**3.40**	**3.95**	**38**	**4.4**	**15.7**	**31.4**	**73.0**	**80.5**	**50.8**	**22.8**
	2.39	0.78	2.85	3.74	2.19	2.95	48	4.0	25.9	57.8	91.2	109.9	82.0	28.8
Paints, Varnishes and Lacquers (137)	5.55	4.05	11.70	18.42	3.51	6.07	32	9.7	23.9	16.7	31.9	46.8	44.6	11.1
	3.55	**2.43**	**7.67**	**12.26**	**2.50**	**4.42**	**36**	**7.0**	**33.5**	**24.5**	**47.3**	**64.2**	**69.1**	**21.9**
	2.47	0.84	2.62	5.21	1.98	3.55	47	4.9	47.6	38.1	71.4	87.5	101.3	31.2
Paper (63)	3.91	7.64	10.31	30.50	1.89	5.73	26	8.3	56.7	14.0	32.8	54.6	57.5	36.5
	2.80	**5.75**	**7.75**	**22.22**	**1.57**	**4.17**	**33**	**6.1**	**76.7**	**19.6**	**46.8**	**73.5**	**74.0**	**66.4**
	2.23	3.77	5.42	14.83	1.07	3.24	37	4.8	93.5	30.1	66.4	89.6	108.2	109.7
Paper Boxes (65)	4.45	4.78	13.59	30.63	2.83	9.02	24	11.6	36.3	13.7	31.8	40.5	60.5	23.0
	2.75	**3.45**	**7.17**	**17.56**	**2.05**	**5.35**	**29**	**9.2**	**54.7**	**22.8**	**48.0**	**66.7**	**80.1**	**61.7**
	1.89	1.65	4.96	12.42	1.67	4.08	39	7.1	78.7	37.6	79.9	95.3	116.4	112.7
Petroleum, Integrated Operators (38)	2.95	10.30	10.84	47.18	2.54	7.51	35	9.8	70.7	14.1	29.1	49.9	94.3	29.5
	2.45	**6.16**	**8.22**	**35.62**	**1.18**	**4.95**	**41**	**8.2**	**90.1**	**19.0**	**47.1**	**62.7**	**117.2**	**96.6**
	1.90	3.78	5.75	14.92	1.06	4.27	49	7.5	114.9	26.8	78.4	83.1	151.9	199.3
Printers, Job (66)	3.69	4.22	10.71	29.47	3.82	10.77	32	**	44.0	20.8	32.2	**	**	14.8
	2.48	**1.70**	**5.12**	**14.85**	**2.49**	**7.05**	**41**	**	**59.3**	**28.0**	**45.3**	**	**	**43.2**
	1.63	0.07	0.24	1.57	1.93	4.38	54	**	81.4	51.3	71.7	**	**	81.4
Shirts, Underwear, and Pajamas, Men's (55)	3.14	2.77	10.69	12.87	6.29	9.28	29	7.6	2.1	31.6	47.1	62.2	47.7	13.6
	2.02	**1.42**	**6.00**	**6.35**	**4.38**	**5.91**	**41**	**4.9**	**6.1**	**77.0**	**105.6**	**102.9**	**86.1**	**19.8**
	1.59	0.34†	1.51†	3.72†	3.36	3.82	59	3.8	16.2	110.5	166.0	149.5	119.0	29.8
Shoes, Men's, Women's, and Children's (107)	3.42	3.54	12.60	15.35	4.83	5.49	38	7.5	11.0	32.2	50.2	57.8	54.4	8.1
	2.60	**2.24**	**7.48**	**7.85**	**3.32**	**3.97**	**55**	**4.8**	**17.7**	**49.4**	**65.5**	**74.3**	**82.6**	**23.5**
	1.73	1.16	4.31	5.02	2.53	2.88	65	3.8	25.7	103.2	127.3	115.8	129.3	38.0
Steel, Structural Fabricators (Sell on Short Terms) (96)	4.80	4.25	12.65	23.81	4.63	6.50	34	8.8	23.1	17.9	40.4	51.2	43.2	12.8
	3.00	**2.72**	**8.92**	**12.94**	**2.97**	**4.89**	**43**	**6.4**	**32.6**	**29.5**	**64.3**	**65.9**	**69.9**	**24.6**
	2.01	1.08	4.26	6.27	2.11	3.48	55	3.7	51.4	57.9	93.4	101.5	112.9	32.7
Stoves, Ranges, and Ovens (54)	5.68	3.62	11.60	17.99	3.66	5.37	36	6.9	17.1	14.5	24.7	52.1	40.4	11.5
	3.47	**2.06**	**5.52**	**8.44**	**2.87**	**4.27**	**47**	**5.3**	**29.6**	**27.2**	**42.4**	**66.6**	**59.6**	**17.4**
	2.38	0.39	1.57	2.58	1.96	2.78	58	3.7	40.9	44.2	59.8	100.4	100.5	38.6
INDUSTRIAL MACHINERY MANUFACTURERS—BY SIZE (TANGIBLE NET WORTH) CLASSES—MEDIANS ONLY														
1958 Under $500,000	**3.37**	**1.37**	**4.24**	**6.52**	**2.55**	**3.97**	**39**	**6.7**	**26.6**	**30.6**	**72.5**	**66.2**	**71.9**	**27.6**
1958 $500,000–$2,500,000	**3.79**	**3.38**	**7.43**	**10.80**	**2.15**	**3.32**	**45**	**5.4**	**32.4**	**24.6**	**53.0**	**57.3**	**68.2**	**20.5**
1958 Over $2,500,000	**3.75**	**3.43**	**6.24**	**9.20**	**1.74**	**2.59**	**51**	**3.9**	**36.3**	**23.6**	**46.9**	**65.1**	**60.5**	**21.5**

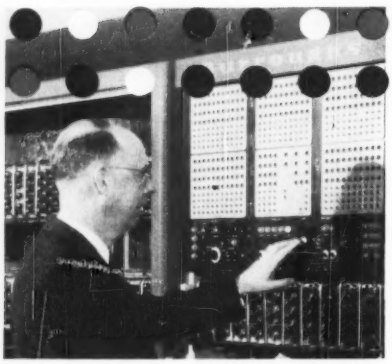
† Loss. * Building construction contractors and electrical contractors have no inventories in the credit sense of the term. Building construction contractors only carry materials such as lumber, bricks, tile, cement, structural steel, and building equipment to complete particular jobs on which they are working. Electrical contractors carry electrical equipment and supplies to complete particular jobs on which they are working. Concerns operating in these lines generally have no customary selling terms, each contract being a special job for which individual terms are arranged. ** Job printers have no inventories in the credit sense of the term. They only carry current supplies such as paper, ink, binding materials, and lead for type-casting.

A Statement from Pacific Power & Light:

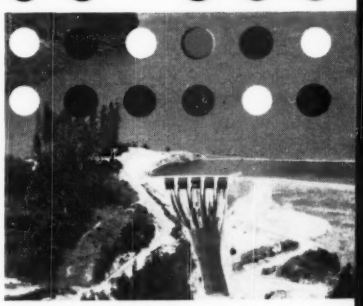
"Our Burroughs 205 computer saves us money in many ways..."

Paul B. McKee, Chairman of the Board and Don C. Frisbee, Treasurer





Programming Head Vern C. Thomas



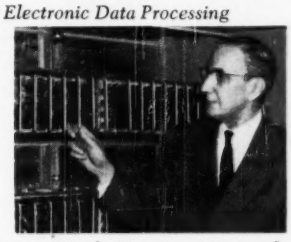
"Our Burroughs 205 computer saves us money in many ways . . . Customer Billing, Accounting, Plant Expansion Studies, and Area and Resource Development."

PAUL B. MC KEE
Chairman of the Board, Pacific Power & Light

In many ways, a Burroughs 205 electronic data processing system is serving over 300,000 customers in the Great Northwest. The system is installed at Pacific Power & Light in Portland, Oregon, and is currently being used for accounting and engineering jobs.

In 1948 the billing at Pacific Power & Light was centralized on key-driven equipment. Three years later, a forward-thinking management initiated studies of the electronic data processing field. Stanford Research Institute was called in to work with key PP&L accounting personnel in doing a study. After an exhaustive report on computer requirements prepared in 1956, management was ready to make a selection. States PP&L's Chairman of the Board Paul B. McKee, *"We were satisfied that we had researched the problem thoroughly and were able to make a completely objective choice. We purchased a Burroughs 205 system simply because it supplied the best answer to our needs."* Delivery of the 205 was in May, 1957. The customary step from key-driven machines to punched card equipment was completely bypassed, and the first electronically processed bills were sent out in July of 1957. Regarding their venture into electronic data processing equipment, PP&L's treasurer Don C. Frisbee says, *"At the time we made the jump into electronic data processing there was no established precedent in the utility field. However, with our problems of mounting paperwork, plus our growing needs for solutions to so many engineering problems, we felt it was necessary to make a pioneering move from key-driven equipment directly to an EDP system."*

David P. Landry, Supervisor of Electronic Data Processing



Dr. James Ward, Director of Research

The customer accounting task for PP&L's 205 was a stickler because their billing problems are so numerous. PP&L's lines extend through Oregon, Washington, Wyoming, Montana and Idaho, and within this large service territory the company maintains 23 districts and 52 offices. Because its territories are so diverse, there are more than 200 different rate schedules. It also reports to five state commissions.

Despite the many complexities, *in one pass* PP&L's 205 computer now processes 30,000 items in one day. And during this same single pass, it bills customers, updates account records maintained on magnetic tape, processes connect and disconnect orders, local bills, adjustments, cash payments and myriad data changes.

Vice-President and Controller of PP&L, George Mackenzie points out, *"The computer didn't solve our paperwork problems overnight. But then we didn't expect it to. We did expect the 205 to enable us to serve our customers faster and more efficiently...and at considerable savings. It has more than met these expectations."* In addition, David P. Landry, Supervisor of Electronic Data Processing at PP&L says, *"Our 205 has not only been fruitful from a tangible dollars and cents point of view, but the computer is also providing new sources of information for management."*

PP&L's 205 has operated on the average of 17 hours per day over the last two years. The company has not been content to restrict its system solely to commercial data processing. PP&L is using its 205 to solve complex engineering problems concerned with the generation, transmission and distribution of power. One of the engineering problems taken over by the machine is scheduling a most efficient use of water stored behind PP&L's three Lewis River Dams to harness the full power potential of the river. The 205 program is, in effect, a mathematical model of the Lewis River hydroelectric facilities. According to Dr. James Ward, Director of Research, *"Its use has saved many hours of tedious calculations. The computer completes in one minute the solution of an operation study which requires 12 to 14 hours when done manually."*

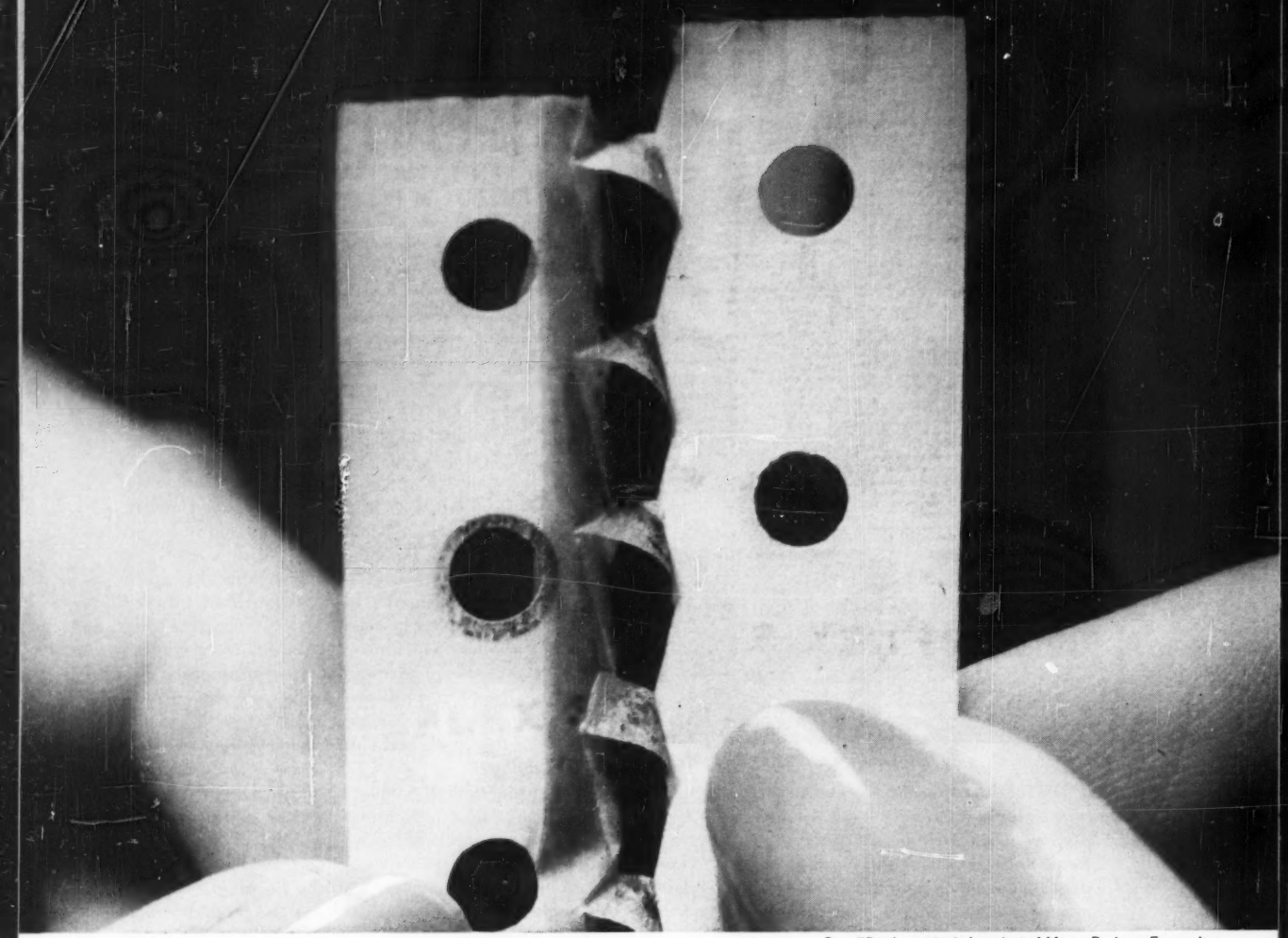
The 205 is also tackling other thorny engineering problems. Routines have been developed for use in planning and designing transmission lines. Another problem involves the calculation of the large short circuit currents which occur when lightning strikes a line. Dr. Ward anticipates that *"the Burroughs 205, in solving technical problems for us, will provide the capabilities of a large scale analog computer, usually used for this work, and costing several hundred thousand dollars."*

In using their 205, PP&L has formed its own operating team. Board Chairman McKee points out, *"Although our data processing equipment team is composed of our own company-experienced personnel, the training they have received from Burroughs has been invaluable in the success of our program. We have found that the backing and service a manufacturer provides is as important as the equipment itself."*

Today, PP&L is working on extending their accounting and engineering uses of the 205 even further. They are confident in their explorations because the 205 has already proven its versatility. And there is assurance too, because all of Burroughs' complete line of advanced data processing systems are designed with customer expansion in mind. These Burroughs computers are currently aiding hundreds of other business and scientific users. For additional information on how the 205 or other Burroughs computing systems can help in your business, write ElectroData Division, Pasadena, California.

Burroughs Corporation *"NEW DIMENSIONS/in electronics and data processing systems"*

Heard about the revolution?



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GERALD M. LOEB

Operation Option

- *Tax headaches and stockholder gripes are forcing a reassessment of stock options as executive compensation.*
- *Incentive-producing stock plans backfire when value drops or financing becomes a burden to employees.*
- *Needed: A revamping of compensation plans to make them less vulnerable to labor and stockholder attacks.*

Stock options are presently the most sought after form of executive compensation. However, these options have proved to be misunderstood, misused, and generally mystifying to the average corporate executive.

The option was originally utilized to keep or attract high-level employees. With tax rates constantly rising, an increase in salary provided little benefit once the employee was in the higher brackets. The perfect out, therefore, appeared to be the stock option.

Basically, the option plan originally worked as follows: John Smith, an executive vice president of Cable Corp., a growing company, was granted the right to purchase Cable stock at 75. The market value of the Cable stock was 100. Smith then exercised his right to purchase at 75, and after six months sold at 110. He had a capital gain of 35, which was taxed at 25 per cent instead of at a considerably higher income tax rate.

But this scheme soon came under attack from the Government. The Internal Revenue Bureau took the position that stocks fall under the heading of employee compensation.

To get around this Government decree, the so-called proprietary option came into being. If Cable Corp. wanted Smith to be a real part of the company, he had to be given some sort of ownership interest. And so long as this was the purpose, no compensation features were involved. For a while, this approach was successful, and Smith could count on keeping 75 per cent of his $35-per-share gain.

But in 1950, the Supreme Court knocked out the entire proprietary argument. The options were all lumped together and taxed as ordinary income.

This meant that a new approach had to be taken. Congress provided a means of obtaining capital gains treatment by introducing the "restricted" stock option. This meant the corporation had to meet all the technical phases of the law. But very often this was, and is, impossible for smaller corporations. So the "unrestricted" stock option came into favor. Although it is called "unrestricted" in order to qualify for capital gains, certain restrictions had to exist. The distinction between a "restricted" and "unrestricted" option is merely a matter of degree, but in both, the employee gets capital gains.

Plans that fail

Today, those corporations which cannot qualify their plan under the Internal Revenue Code as a "restricted" stock option are under a serious handicap. Recent regulations have made the non-qualifying "unrestricted" plans virtually useless. As soon as the restrictions in this type of plan lapse, ordinary income, not capital gain, exists. Although the employee has the advantage of not paying any tax for a period of time, eventually he must pay—and not at 25 per cent.

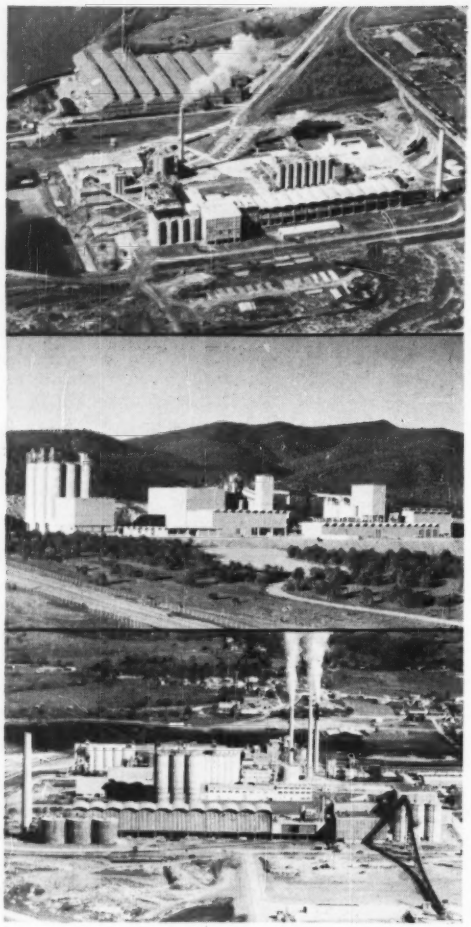
Here it might be wise to consider why the option plan has become so popular. As of 1956, approximately 40 per cent of the companies listed on the New York Exchange had some sort of option plan. Present estimates range from 50 to 60 per cent.

There are advantages for management as well as the employee. The corporation sees the option plan ideally as a means to provide ownership management, employee loyalty, and the maximum incentive. If an executive can envision building his fortune via the capital gains route, he is likely to be spurred to greater effort and a greater degree of personal interest in the welfare of the corporation.

But are stock plans really the ultimate in executive benefits? Although management has the advantage of improved morale, let us suppose Cable Corp's stock goes down in price. Will John Smith become despondent, worried, antagonistic—the very opposite of the company's intention? And as for John Smith, doesn't he become involved in a never-ending cycle of purchasing? Many corporations have found their employees financed to the hilt in order to purchase more and more stock. We are building a new class of security investors who are subject to market risks but who are not "investment wise" and, in most cases, not financially able to withstand sharp drops in value.

Then there is the tax problem. As indicated in our brief history, constant changes in approach occur. In some cases, a ruling that the option gain is to be treated as ordinary income could be disastrous to the employee and, ultimately, to the employer.

The option is no longer a private matter between the corporation and the employee. The AFL-CIO has done much research to document



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Tijeras, New Mexico Plant

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their anti-option opinions. The stockholder is beginning to think in terms of suits. The politician is affected by these views and is introducing legislation that, if accepted, would take away the tax advantage. Even the Federal Reserve Board is thought to be considering suggesting that banks tighten up on their loans to executives endeavoring to finance their six-month holding period.

Doing away with options as a tax-saving device is not the solution. However, an over-all tightening up of the use of these plans apparently is needed. The advantages gained by both the company and the employee will be lost if proper steps are not taken. This means that executive compensation, including options, must be revamped to escape union and shareholder attacks. It also means that attempts must be made to keep financing and market speculation in the securities to a minimum.

Then, and only then, will stock option plans truly do their job.

Take-Home Profits

It is not what you make but what you keep that counts. The realities of net take-home profits and realistic after-tax costs are the essentials of effective management policy.

Recently, Sheraton Corporation of America sold an issue of 7½ per cent capital income sinking fund debentures due 1989. At first glance, stockholders might feel the interest rate is high or that Sheraton's credit is low.

Here is how Sheraton's President Ernest Henderson explains the stock sale: "The rate of 7½ per cent on these capital debentures was in lieu of the conventional conversion privileges often offered in order to make junior financing attractive. Since debenture interest is tax deductible, the net cost of interest payments on the 7½ per cent debentures is comparable to the cost of dividends (not deductible) on a 2¾ per cent preferred stock."

Thus, Sheraton has avoided the dilution of its common stock equity at low net cost.

New Accounting Aid

An increasing number of companies are including a table of source and disposition of funds in their stockholder reports. It would be of great

value to the investor if this became a standard practice. The table saves the analyst the trouble of looking up figures and making computations.

One of the first things to look at, if such a table is available, is the relationship between dividends paid and new financing and borrowing, if any. The common practice is to compare dividend payments with recorded earnings, but it is much more revealing to compare dividend payout with several factors instead of one.

Standard Oil Company of New Jersey calls its table of sources and disposition of funds a "Summary of Changes in Working Capital." Data are given for a period of nine years and are presented in both tabular and graphic form. The increases and decreases in working funds—proceeds from financing, borrowing, and cash earnings—are clearly shown and compared with funds paid as dividends and additions to property.

Financial Who's Who

Because of the large and constantly increasing number of publicly-owned corporations, shareowners, through their brokers and investment analysts, are demanding more and more direct field information on the securities they own or contemplate owning.

Up to now, analysts had to do a lot of searching to find this information. Now, at long last, a "Financial Publicists Directory" is available. It gives an alphabetical listing of corporations which answer inquiries directly, a listing of corporations and the counsel firms they use, and a listing of counsel. About 1,200 clients of 380 public relations counsel firms and advertising agencies with stockholder relations departments are listed.

Semi-annual Check-up

New Jersey is the first state in the nation to permit life insurance companies to sell variable annuities which are based on common stock investments by insurance companies.

One of the regulations set up by the state is of interest to corporate managers concerned with pension and profit sharing funds. It says, in brief, that twice a year the insurance company must get rid of any investments that no longer meet legal standards. From the corporate investor's point of view, this can be interpreted to

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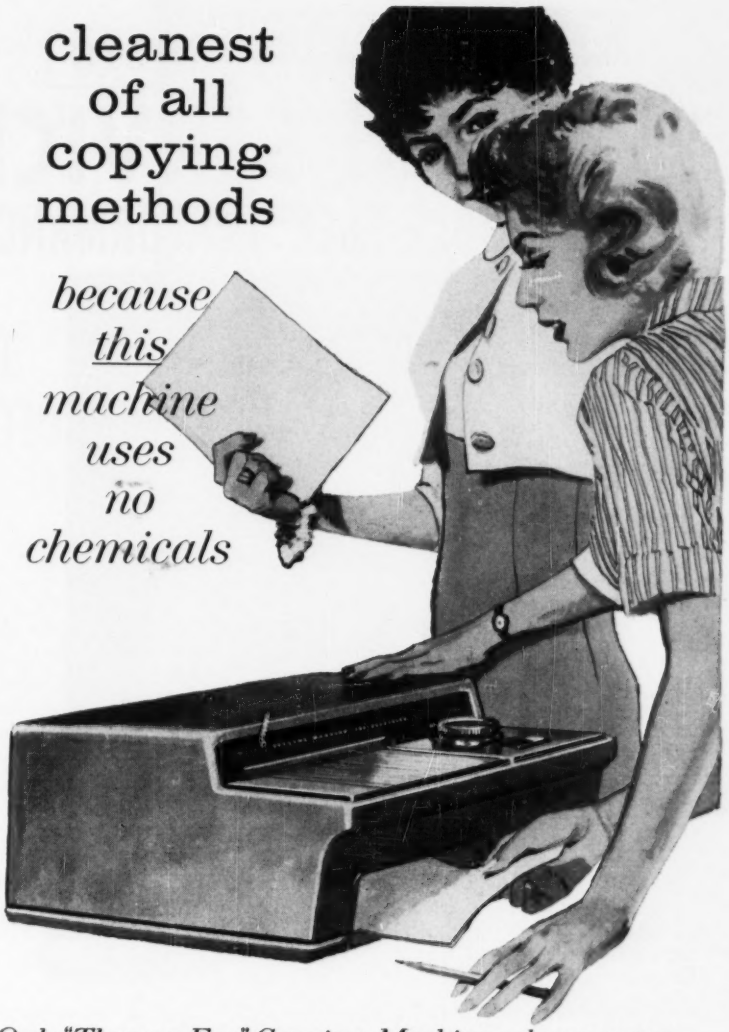

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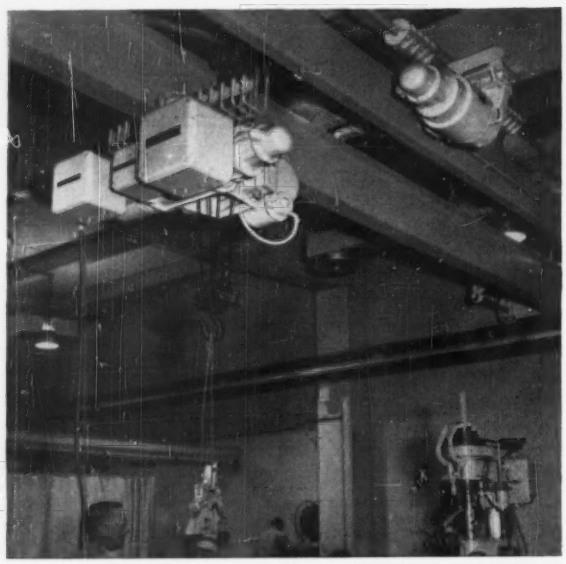

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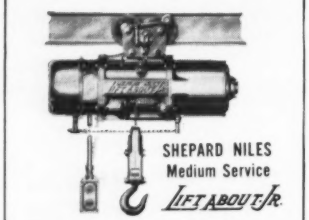

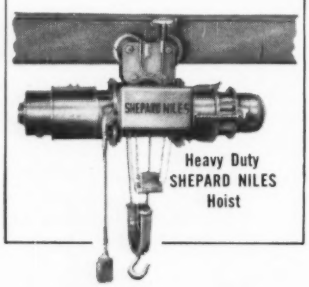

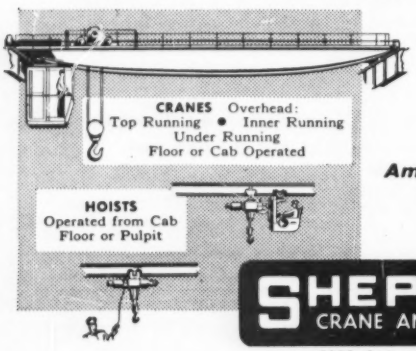

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Capitalizing for Top Value

A cracker in a barrel sells for less than a cracker in a carton.

Likewise, a company in the wrong corporate shell can sell for less than its optimum value.

Exactly the same effect is seen in corporate capitalization. Allowing for variations in the stability or instability of earnings, the corporation with a well-balanced capital structure of debt and equity has the highest value in the security markets. The all-equity company is valued at less. It is, of course, the strongest, but a majority of investors want the added earning power that reasonable debt gives. On the other hand, the over-leveraged corporation—with the maximum of debt and the minimum of equity—suffers in the marketplace. Its debt usually sells at a discount. And the price-earnings ratio of its inflated per-share net is ordinarily very modest.

Sale and Leaseback

The growing popularity of various types of sale and leaseback arrangements suggests the need of placing these items in their proper position on the balance sheet or at least in an informative footnote. A bank, insurance company, or other source of funds invariably asks for these figures and gets them whether they are published or not. Why not show them to analyst and stockholder as well?

It is difficult, except in the rarest instances, to justify leaseback arrangements on a statistical basis. In more ways than one, they almost invariably cost more than long-term financing. They probably exist for what can be termed "critical" reasons. Generally, leaseback seems a less painful way of financing and, thus, is easier to have approved. Also, it makes a balance sheet look better to the casual reader. Like inflation, it can often be a sugar coating for what becomes a bitter pill. END

At Circleville IN SOUTH CENTRAL OHIO

BENEFIT-PACKED SITE WITH ADDED ATTRACTION

Close source of polyester film for packagers, fabricators, converters or processors

The Scippo site, on the outskirts of Circleville, Ohio, offers distinctly attractive advantages to prospective industry. Close by is the du Pont Mylar polyester film plant, and a few miles further, construction of a new plant at Hopetown, Ohio is underway for Johns-Manville.

- Fifty-five acres, fairly level, approximately 3,000′ frontage by 800′ depth.
- Bounded on the east by U.S. 23, Ohio's most important four-lane north-south highway; on the west by the Newport News-to-Toledo double-track main line of the C&O.
- Fuel sources — high-grade bituminous coal, as well as high quality coke, is available in abundant supply from nearby fields in eastern Kentucky and West Virginia.
- Water in abundant supply for industrial use, including two 18-inch wells formerly used by C&O and capable of a million-gallon daily yield. Access to Scioto River for effluent disposal.
- Labor — hundreds of skilled people experienced in the production of automotive hardware, plastics, transportation equipment, glass, leather goods, textiles, apparel, and processed foods. Located within easy travel range.

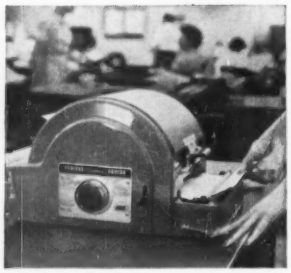
Consult C&O in confidence: Complete industrial surveys of this and many other sites are available to interested companies. Inquiries are handled in complete confidence and without obligation. Address: Wayne C. Fletcher, Director of Industrial Development, Chesapeake and Ohio Railway, Huntington, W. Va., Telephone: Jackson 3-8573.

Chesapeake and Ohio Railway

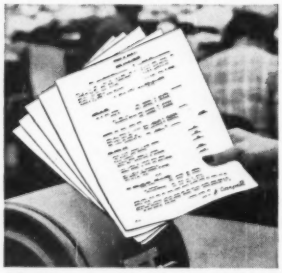
Serving: Virginia • West Virginia • Kentucky • Ohio Indiana • Michigan • Southern Ontario

At General Electric Company, Schenectady, N. Y., the advantages of modern office copying—plus the extra savings and convenience of having copiers only "stepping distance" away—are daily demonstrated by this and other Verifax Copiers.

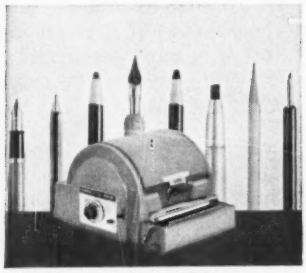
Kodak Verifax Bantam Copier outperforms copiers costing up to 4 times as much!



Makes 5 dry, easy-to-read copies in 1 minute for 2½¢ each. Verifax copies can be made on one or both sides of bond-type paper, card stock or printed forms for use in systems.



Verifax copies are always clean and accurate—the kind you prefer to read and are proud to send out. These Verifax copies last fully as long as any typed records. Won't fade.



Write with anything—you can copy ball-point, crayon—what have you—as easily as typed data. Even those purplish duplicator copies and rubber stamps are a snap to copy.

5 copies ready to go in 1 minute!

COMMUNICATIONS ARE FASTER, COPYING SAVINGS GREATER, WHEN YOU HAVE A KODAK VERIFAX COPIER RIGHT IN YOUR DEPARTMENT OR OFFICE!

A wonderful convenience for you and your secretary—for everyone in the department—when dry, easy-to-read Verifax copies of letters, reports, orders can be made right on the spot, fast as needed.

Convenience that pays for itself!

As systems men see it, putting copiers wherever needed is more than a convenience—*it's smart business!*

For it ends costly "travel time" to a distant copier . . . lets you keep all the savings you get from rapid copying. At the same time it lets everyone take full advantage of all those dollar-saving Verifax short cuts, such as answering half the mail without dictation and typing. Or doing an all-day retyping job in just 20 minutes. (Short cuts which may be overlooked if the nearest copier is "miles away.")

It's easy to see how the smallest departments and offices—even "one man" offices—can quickly save the cost of a Kodak Verifax Copier (only $99.50 for the capable Bantam model).

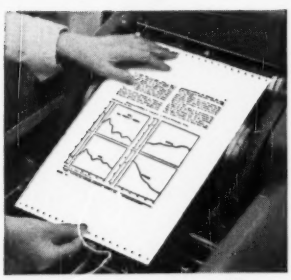
Call in your Verifax Dealer

for free demonstration of Verifax copying right in your office. See how it speeds up routine paper work . . . how it brings remarkable savings to various systems, such as order-handling. Check "Yellow Pages" under duplicating or photocopying equipment.

Price shown is manufacturer's suggested price and is subject to change without notice.

Verifax Copying

DOES MORE . . . COSTS LESS . . . MISSES NOTHING



Even makes an offset master in 1 minute for less than 20¢ using a low-cost adapter. Translucent masters for whiteprint machines are also made in 1 minute at low cost.

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Gentlemen: Please send new booklet "How modern office copying adds time where it counts." Also names of nearby dealers.

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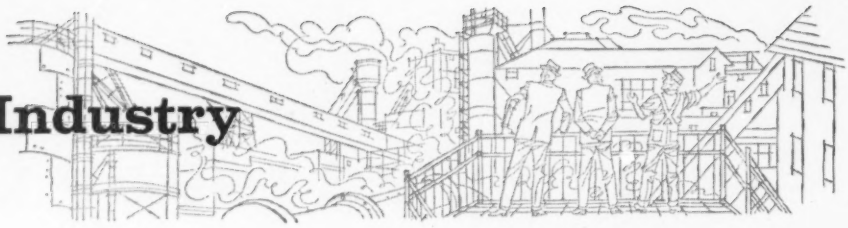
Inside Industry



- ✓ *How package testing pays off*
- ✓ *New diversification field: printing*
- ✓ *More uses for purer chromium*

Test Before You Wrap

Time was when, once a manufacturer completed a piece of equipment, the carpenters would build a big wooden box for it, nail it up, and ship it off. Today, however, manufacturers are engineering and testing packages as carefully as the products they enclose.

The payoff is in reduced damage in transit and often in lighter-weight containers, which mean important savings in transportation. For example, through tests, the Trane Company, La Crosse, Wis., found out that one of its wire-bound containers was unnecessarily sturdy. Shipping costs were cut when the box was lightened from 98.3 to 87.3 pounds.

Package testing is now a formalized, standardized procedure—often calling for the use of machines costing more than $10,000 apiece. For example, the investment in testing equipment at the General Electric Company Packaging Laboratory is more than $50,000. Many of the independent testing laboratories have sunk even more money into package-testing machines.

The basic testing machine is the Mullen tester, a relatively inexpensive hand-operated device that determines the bursting strength of corrugated paperboard. Another inexpensive machine is the "drop tester," which can drop a full package flat or on any specified corner as accurately as any stevedore. Still another corrugated tester duplicates the puncturing effects of sharp objects.

To duplicate the blow a package receives when a boxcar is "humped," many companies are installing "incline impact" testers (see photo). They can handle up to five-ton packages. Another big tester is the vibrator, which bounces a package along just as a truck or boxcar would. Package Research Laboratory, Rockaway, N.J., has a vibrator that can shake the guts out of a 10,000-pound shipping container.

If a company ships overseas or to the Gulf States, testing packages for resistance to humidity is a good idea. However, this usually calls for an expensive humidity-temperature room. Therefore, all but the largest companies find it expedient to turn over packages for humidity tests to independent package test laboratories.

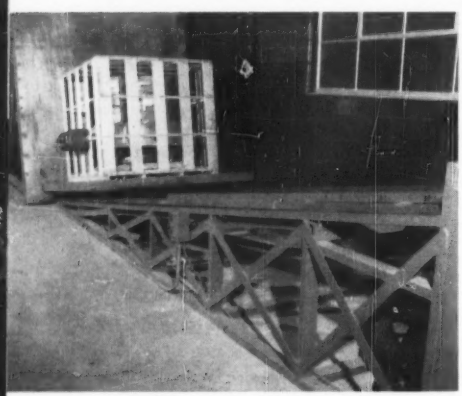
Another monster test machine that few manufacturers can afford is the tumbler. Resembling an inside-out water wheel, tumblers can quickly reduce most packages and their contents to excelsior. However, packages are generally "tumbled" for only a few minutes—the equivalent of hours of manhandling.

Companies that go in for package testing find that the investment more than pays off in lower packaging costs, reduced shipping damage, and —most important of all—fewer customer complaints.

Markets in Graphic Arts

Now that the printing industry is showing more enthusiasm for really new ideas than it has in years, many companies are making strong efforts to diversify into this multi-billion-dollar market. This sort of diversification can take two forms: finding applications in printing for present materials and equipment, or developing entirely new products especially for the graphic arts industry.

continued on page 77



USEFUL DESTRUCTION: *This package containing a Trane roof ventilator is about to smash into the solid wall of an incline impact tester. With this and other package testing machines, companies can cut shipping damage while reducing shipping weight (see story). Test machines are often costly.*

SHINING PURITY: *This isn't a bejeweled royal scepter but an ingot of the purest chromium ever produced. It is held by Dr. John M. Blocher, Jr., of Battelle Memorial Institute (see story, page 78).*

MILKING MALT: *Bulk materials such as dry, granular, or powdered chemicals and food products can be unloaded speedily from the new "Ship-O-Matic" covered hopper car developed by the ACF Industries.*

In the first category, for example, American Cyanamid Company has found a market in the paper industry for its "Calcofluor" brightener, which was originally developed as a detergent additive to brighten the laundry. And Dayton Rubber Company is making long-life rollers for printing presses out of solid urethane, the versatile plastic that is usually foamed.

In the second category, Radio Corporation of America, has developed an accurate electronic counter for newspapers, and E. I. du Pont de Nemours & Company is pushing a new plastic printing plate.

Industry as a whole, which spends billions for printing, could also benefit from these new developments, since they would mean a reduction in the spiraling cost of printing.

The printing industry is a particularly good market for electronics. In addition to counters, it can use electronic devices for setting type, for making four-color separations, and for maintaining the necessary "register" during four-color printing. The ultimate is an electronic device which would turn out completed books, magazines, brochures, or newspapers as copy and illustrations are fed in.

Labor troubles will no doubt slow down the technological advance of the printing industry. Those plants that are unionized were done so on a craft basis. As a result, there will be jurisdictional disputes over who should operate new devices that are not clearly in the province of one craft. For example, the linotypers and the photoengravers are arguing over the photo typesetting machine—the linotypers claiming jurisdiction because it is a typesetting machine, and the photoengravers wanting to run it because it operates by photography.

continued on page 78

Can you trust your mailing scale?

Ever realize that your mail scale sometimes can't be trusted? Fact! If it overweighs *on as few as 8 letters a day, you could lose nearly $100 a year. And if it* underweighs, *the mail you send out arrives "Postage Due"—the recipients pay your postage for you. This hurts your company reputation and creates customer ill will.*

Get rid of your old, tired, inaccurate scale, and get a new Pitney-Bowes mailing scale!

A PB scale is precision built, with an automatic pendulum mechanism that stays accurate. It registers quickly, and exactly. The hairline indicator and large chart markings leave no doubt. Big figures are easy to read. Mailing is faster and easier. You save postage, and avoid mistakes.

Ask the nearest Pitney-Bowes office to show you any of the six PB scale models—including the parcel post scale with 70 lb. capacity. Or send coupon for free illustrated booklet.

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Originator of the postage meter . . . offices in 121 cities in U. S. and Canada.

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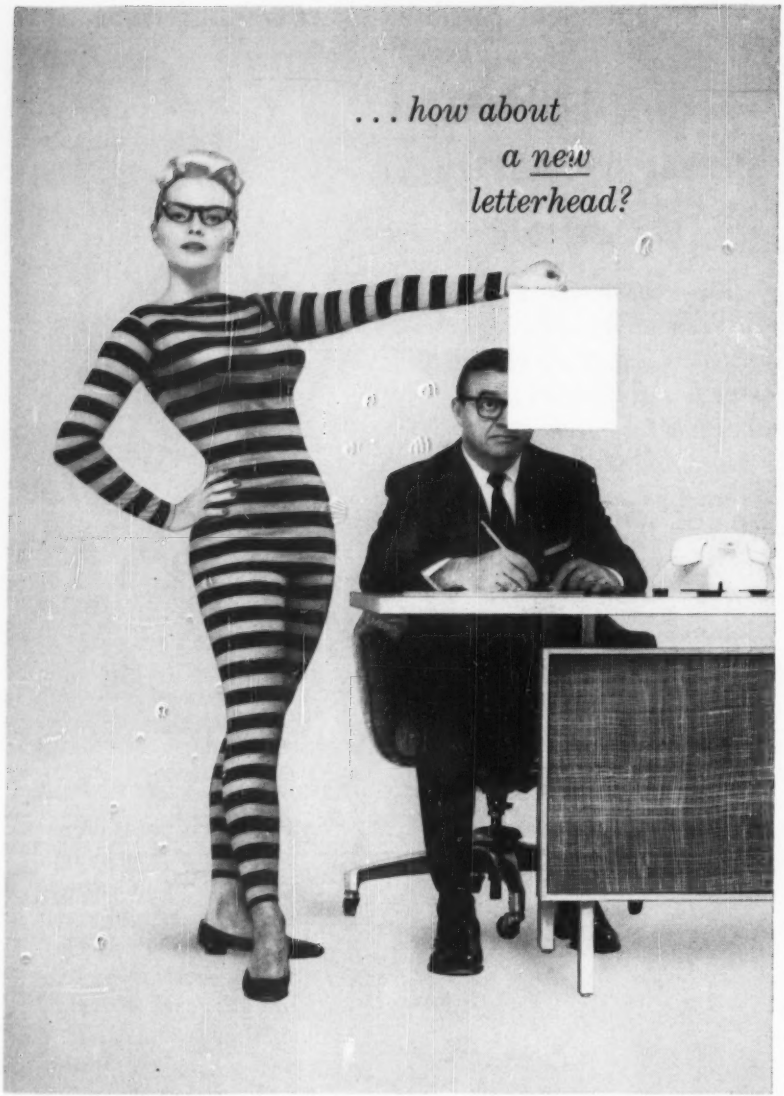

Perhaps it's time for a fresh design and a bright new **WESTON** *paper*

Your printer, advertising agency or letterhead designer will gladly suggest a new design and a paper of appropriate quality from the complete family of Weston cotton fiber letterhead papers—including Old Hampshire Bond (Extra No. 1, 100%), Defiance Bond (100%), Winchester Bond (50%), Weston Bond (25%) and Weston's Hand Weave (25%). Write Dept. DR for samples.

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Better Papers are made with cotton fiber

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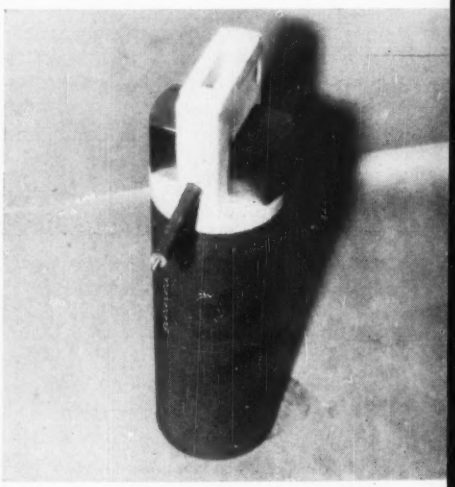
It's worth noting that at least one union in the industry, the Amalgamated Lithographers, isn't perturbed by the automation bogey. In fact, they're cooperating with management in smoothing the introduction of new technology in the lithographic field, and educating their members to adjust to the changes it will bring.

The chemical industry has many market opportunities in printing for dyes, brighteners, plastic coatings for paper, cleaning compounds, and plastic parts. New materials handling needs offer a substantial market for the metalworking industry.

Bright Future for Chromium

Chromium, the bright metal, appears to be moving into a new era in which it will be valued for itself and not because of what it can do for other metals. One researcher has developed a successful method for extruding pure chromium tubing, and another has produced the purest chromium known.

Working with extremely pure chromium powder, Dr. James Wong of Nuclear Metals, Inc., Concord, Mass., produced the extrusions. The tubes are highly corrosion- and oxidation-resistant. They might be used as exhausts in rockets and jet engines. In sheet form, chromium could make an excellent heat-resistant skin for



HEART OF THE MATTER: *This part is the key element in a new method of making electricity. The black cylinder is hollow and made of graphite. It directs hot ionized gases through the white quartz generator, against which metal blocks are mounted. The slender stick is a graphite electrode that collects the electricity generated. The part is mounted between large magnets. Developed by General Electric, it could be used in space.*

aircraft, space vehicles, and missiles.

Dr. John M. Blocher, Jr., of Battelle Memorial Institute, Columbus, Ohio, developed the 99.99+ per cent pure chromium (see photo, page 76). It will be compounded with other metals to produce ductile alloys with a very high chromium content.

Light and Cool

Even the most efficient light sources generate a lot of heat. Since this heat puts an additional load on an air-conditioning system, lighting engineers are coming up with new designs in lighting fixtures that deflect the heat outside an air-conditioned area. On the other hand, in winter the flow of heat could be reversed to help warm the area and thereby cut heating costs. These new ideas were presented at the recent meeting of the Illuminating Engineering Society.

Tunnel Diode Progress

Intense experimentation in this country on the tunnel diode (see DUN'S REVIEW, September 1959, page 157) has been further stimulated by the recent three-week visit to the United States by the inventor of the unusual device. Dr. Leo Esaki of the SONY Corp., Tokyo, toured leading laboratories in the electronics industry and lectured on his new advance in solid-state electronics.

Since the initial announcement of the new fast-switching diode, DUN'S REVIEW has learned exclusively that the SONY Corp. has filed an application in this country for a patent on the device. Meanwhile, of course, American companies will continue to experiment with tunnel diodes constructed on the basis of Dr. Esaki's original revelation in a scientific journal of the "tunneling" effect.

Fairchild Semiconductor Corp., Mountain View, Calif., has joined the ranks of American companies researching the new device. Fairchild officials have demonstrated a tiny radio transmitter they built around a single tunnel diode.

So far, Japanese researchers have developed a computer circuit using only 30 tunnel diodes. Dr. Hidetoshi Takahashi of Tokyo University claims it is "theoretically possible" to make a computer with the same switching capacity as the human brain by using 100,000 of Dr. Esaki's diodes.

—M.M.

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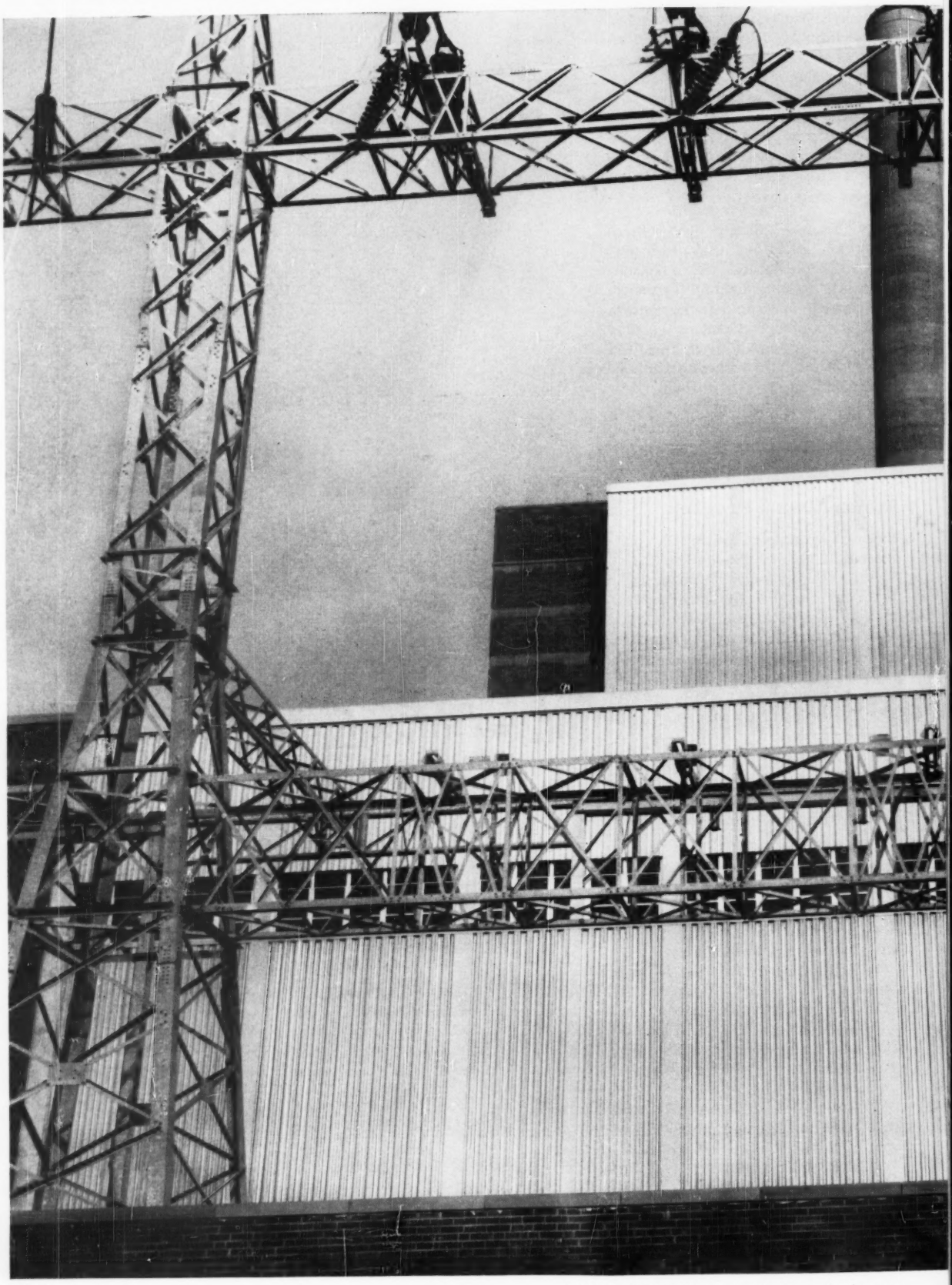
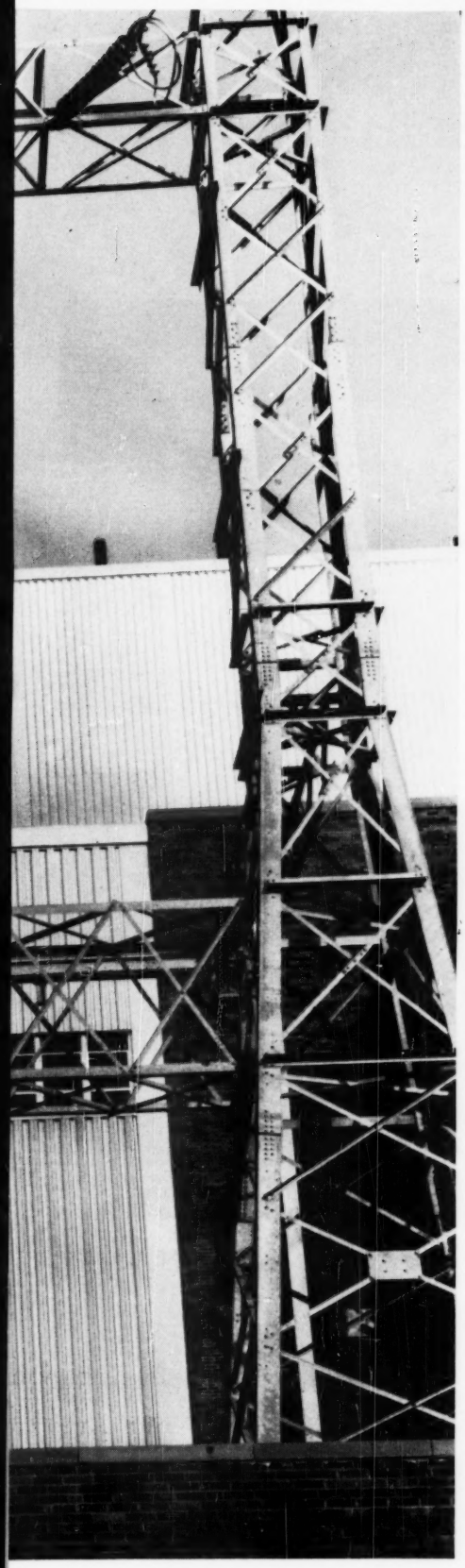




What?
Stainless Steel walls and lower costs too?

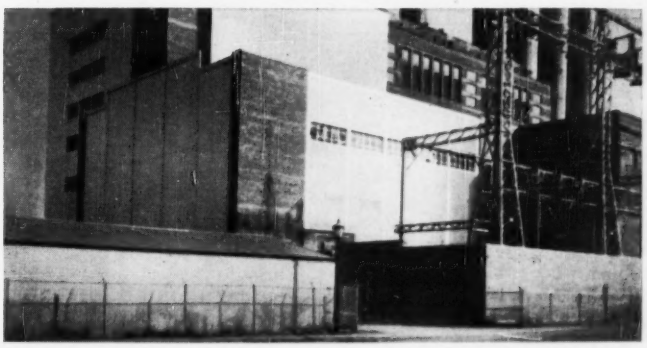
You rightly think of Stainless Steel as a premium building material—it's so strong, lustrous and corrosion resistant. But the picture shows an installation where they used this king of metals for curtain wall construction and used it economically.

The Stainless Steel curtain walls are light, so the builder could use a lighter, less expensive foundation. He saved on structural steel, too. Stainless Steel wall panels can be quickly and easily bolted into place. Labor costs and construction time go *way* down—and the building can be occupied a lot sooner. Stainless Steel curtain walls are thin, so they allow more floor space inside the building. They have good insulation, so they reduce heating costs. They're *Stainless Steel*, so they don't need any care except for an occasional washing, and you can leave that up to the rain.

For more information, write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS is a registered trademark

General Supervising Architect (CEI): Donald V. Galer
General Supervising Engineer (CEI): Robert W. Ott
General Contractor: The Albert M. Higley Co., Cleveland, Ohio
Stainless Steel Panel Fabricator: Walcon Corporation, Ecorse, Mich.



The Cleveland Electric Illuminating Company used gleaming Stainless Steel panels for its new Avon Power Plant addition.

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American Steel & Wire—Cleveland
National Tube—Pittsburgh
Columbia-Geneva Steel—San Francisco
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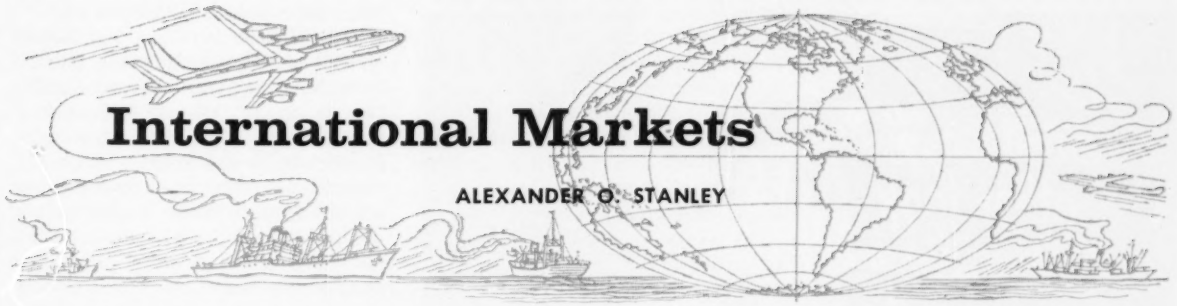


International Markets

ALEXANDER O. STANLEY

Aid Begins at Home

"Let's get the trade if we give the aid." That's the current policy position along Washington's international bank row. Spearheading the latest Government maneuver to cut down the dollar drain and build up the export outflow is a recent move by the Development Loan Fund (DLF) to require most overseas borrowing nations to "buy American." This major policy shift contains some immediate effects and long-range possibilities:

- Where formerly almost half the procurements on DLF loans were made in Europe and Japan, now most new procurements will be shunted to the United States. Of the $90 million in loans underwritten since the loan program began in 1957, only $50 million has been spent here.
- The "Buy American" policy will apply to the bulk of the $515 million in uncommitted DLF funds left from this year's $550 million Congressional appropriation, and it probably will extend to any new DLF monies voted by Congress next year. Presently on file with the DLF are loan applications from underdeveloped countries totaling $1.4 billion. Unaffected by this new policy are loans approved but not as yet disbursed aggregating $800 million.
- For loan purposes, foreign subsidiaries of U.S. companies will be regarded as if they were foreign-owned companies.
- Special cases will get special treatment. For instance, procurements outside the United States will be given favorable consideration if they involve replacements, alterations, or additions to installations of non-U.S. origin. This is a sensible proviso which avoids costly and wasteful conversion. And if funds are needed to meet payrolls or to buy materials available locally to complete or to start road building, transportation systems, or other public works projects, they are likely to be approved. The test here is the *degree* of overseas procurement involved. The less foreign exchange is required and the more local spending enters the picture, the better the chance of approval. Until now, this type of payment has absorbed only 10 per cent of the funds committed.
- The new DLF policy brings it into alignment with other branches of U.S. foreign aid. The Export-Import Bank of Washington requires that most of its monies lent abroad be spent, so far as possible, in the United States for goods or services. This practice also is followed in economic propects financed by the International Cooperation Administration, which handles slightly less than half the $3.2 billion appropriated by Congress for foreign aid in fiscal 1960. These are mostly grants, not loans.

From the long-range standpoint, the advocates of the "Buy American" policy hope it will:

- Inspire American companies to participate in the industrial development of the economically marginal countries by creating profit opportunities for them in the sale of U.S. equipment and supplies to these underdeveloped nations.
- Exert pressure on revitalized European countries to participate more directly in extending long-term financial assistance to the underdeveloped countries of the world. The desire is to have European nations finance their exports to these areas with their own money instead of U.S. aid.
- Check the expanding dollar imbalances by converting overseas aid loans into U.S. exports, thereby reducing the outflow of gold and/or the build-up of foreign-held assets in the United States, a troublesome factor in our international trade arithmetic.

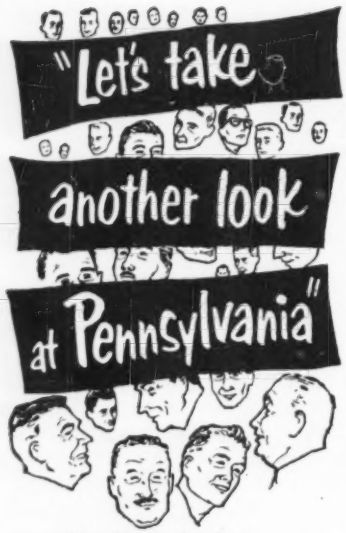
An Assist for Uncle Sam

Shoring up the wobbling economies of the little markets of the world is a job of broad dimensions. Recognizing that the United States cannot continue to shoulder the massive burden alone, the 68-member nations of the World Bank have agreed to a U.S.-sponsored proposal for a new international lending agency.

Actually, the plan was originated by Sen. A. S. Monroney (D., Okla.) who late last year introduced a resolution in Congress calling for an ancillary unit of the World Bank to write the needs of the weak world markets.

Functioning under the name of the

- ▶ *The Development Loan Fund tells its overseas borrowers: "Buy American."*
- ▶ *New World Bank affiliate formed to help support marginal markets.*
- ▶ *U.S. dollars come home in reverse investments from overseas companies.*



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258 RE-OPENINGS OF IDLE PLANTS
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- No state property tax
- No state tax on personal income
- Manufacturing exemption for capital stock and franchise taxes
- Low local property taxes
- No tax on machinery or inventories

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International Development Association (IDA) and as an affiliate of the World Bank, this new agency would be empowered to offer to the underdeveloped countries less stringent low-cost, long-term loans, which the World Bank itself cannot accept under statutes designed to insure a high degree of solvency.

As proposed, the IDA would have an initial capital of $1 billion, paid in over a five-year period, with subscriptions proportioned to those now allocated among the 68-member nations who are shareholders in the World Bank. The U.S. share: $320 million. Although details must still be ironed out, differences compromised, and funds put into the till, the outlook is good that this new agency will get under way next year.

As conceived by Senator Monroney, the IDA will give more flexibility in loans to the marginal markets, expand development financing into a multilateral program in international channels, and tap the reservoir of local currency accumulations built up abroad by the United States from its sales of surplus agricultural products in world markets.

From the World Bank point of view, the IDA provides an expanded area of activity within the range of the marginal markets. Until now, these could not qualify for "bankable loans," repayable in hard currencies which are in short supply among this group of have-not countries. The World Bank now will be able to underwrite projects vital to the small country, taking as its part of the package loan only that amount that the debtor country can comfortably service, based on its dollar or hard currency earning capacity. In the recent past, some 60 loans of this type had to be turned down.

Since the World Bank's own capital subscriptions were expanded recently to $20.3 billion, we can look for more ports, more power plants, more highways, more public and private works to be started in the minor and major markets overseas.

Investment Feedback

Although the tempo of net U.S. company investments has lately slowed down—the 1958 rate was $1.9 billion compared with an average of $3 billion in previous years—some of the dollars we sent abroad are coming home in reverse investments. Consider these recent developments:

- The Underwood Corp. has recently sold a 35 per cent stock interest in its company, worth almost $9 million, to Img. C. Olivetti & Company, Sp.A., world famous Italian producer of typewriters and business machines. Olivetti, operating until now through six key centers in the United States, will broaden its base of operations and have access to the U.S. market through the vast Underwood distributorship chain. Abroad, Olivetti will have close contact with Underwood and some degree of control in Underwood's European and Canadian subsidiaries. Aside from Olivetti cash, Underwood will get Olivetti cooperation in research and product development and will also swap manufacturing techniques.
- Grand Central City, a 57-story skyscraper to be erected above New York's Grand Central Terminal, will be financed in part by City Centre Properties, Ltd., one of England's important real estate and building concerns. The unusual British commitment has a ceiling of $25 million and is worth a 50 per cent stock interest, with the balance held by a U.S. group. The British company's reasons for investing: substantially higher return on realty investments than is possible in the U.K. and the U.S. practice of taking depreciation at pre-tax levels, instead of on the U.K. after-tax basis.

Britain Eases Up

Liberalizing trade and travel continues to be the goal of the British Government, despite a 60 per cent drop in its favorable balance of payments to slightly less than $400 million by mid-year 1959 and despite the fact imports outpaced exports by $315 million through August and September.

Easier currency exchange in trade and increased industrial production primed a 5 per cent jump in January-to-September imports, while exports expanded at a more moderate 3 per cent rate.

Although a tight margin remains between the inflow and outgo of its visible trade balances, the reelected Tory government has recently taken another step toward full convertibility of sterling by modifying restrictions on travel money. Available to Britons since October 31 is an automatic allowance of a sterling

equivalent of $700 each year for spending abroad. And if more is needed, it can usually be had by applying to the Bank of England through banking channels.

The new regulation virtually removes the ceiling from the amount of travel money a British subject can take out of the country, especially for business purposes. The application procedure for funds above the $700 nominal limit is actually a check against unauthorized export of capital.

Further action has just been taken to loosen up sterling convertibility. More of the remaining quotas on dollar-area imports, especially in clothing, textiles, and foodstuffs, have been done away with, continuing the pattern set late in 1957. British import quota restrictions are rapidly being eliminated.

Also under review is a plan to replace the complicated pound, shilling, and pence coinage with the more simple U.S. dime decimal system. As did their counterparts off and on for hundreds of years, the Association of British Chambers of Commerce and the British Association for the Advancement of Science are taking a fresh look at British coinage. They think that bankers and merchants and especially tourists would be happier not having to jingle and juggle farthings, halfpennies, pence, shillings, crowns, florins, pounds, and guineas if they could be replaced with a neater system of money multiplication.

Exports Rebound

The overcast in U.S. exports is slowly lifting, according to preliminary estimates released by the U.S. Department of Commerce. Commercial exports in third quarter 1959 were at an annually adjusted rate of $17.3 billion—after allowing for normal seasonal trends and the rush of September exports to beat the October dock strike. This recent solid improvement in exports shows a gain on an annually adjusted rate of $1.7 billion, compared with second quarter 1959, and an improvement over 1958 as a whole, when exports tallied $16.2 billion.

In September 1959, exports showed a 15 per cent advance over September 1958. But new troubles on the labor front may depress the rebound in U.S. exports. END

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Managing Your Manpower

LAWRENCE STESSIN

» *The hour of decision has arrived: Is a Christmas party worth the time and tribulation?*

» *This year companies bucking the trend are substituting cash, time off, turkeys.*

TODAY, tomorrow, or the next day, countless executives all over the country will have to face up to a decision they have been avoiding for weeks—what to do about the Christmas party? This is an annual dilemma that elicits more groans than almost any subject in the whole realm of personnel practices.

"I feel sheepish talking about it," laments one office manager, "but we have spent more time in conferences, written more memos, had more employee polls on whether or not to hold a Christmas party than on any other problem this year."

This complainant can seek consolation in one thought—he is not alone. The woods are full of harassed managers who would like to be left with such comparatively minor decisions as mergers, product mix, or building a plant in Timbuctoo.

No Yuletide yardstick

Part of their perplexity stems from the fact that industry has never set any standards to go by when it comes to the Yuletide get-together of boss and employee. Chambers of Commerce and trade associations, which can tell you to the decimal point the business norms on any policy, have all but given up trying to arrive at some yardstick for Christmas parties.

Says Ralph Greene Risley, manager, Survey Division, Commerce and Industry Association of New York:

"When we make a survey of Christmas party practices in October, we get a majority of companies answering 'no.' When we recheck in early December, Christmas party preparations are in full swing. They always succumb at the last minute."

This year, the trend seems to be running heavily in favor of parties, primarily because management has discovered a handy source of non-corporate revenue for footing the bill. Profits from vending machines—which have become standard equipment in plants and offices—are being used as "kitties" for year-end festivities. With the financial load eased, management is left without much of a rationale for saying "no" to employee entreaties.

However, there are still some strong dissenters left—managers who have stood firm against the Christmas party. But not without a price. Almost every company which has abandoned the Yuletide affair has substituted some other fringe benefit in its place.

Alternatives that work

"We used to have Christmas parties in our plants," comments Seymour Kaye, industrial relations director of Underwood Corp. "Then we decided to give them up. We went to the union and offered the day before Christmas as a paid holiday. They accepted it quickly. The way I look at it, we got a bargain. The afternoon before Christmas nobody did much work anyway. Then there were requests for time off for shopping. So, all in all, we're paying for only a half day's lost time by having the paid day off. We extended the same privileges to the white-collar groups, and we haven't had a Christmas party problem since."

Another trend is toward departmental instead of company-wide affairs.

"At departmental parties," says an insurance company executive, "there is less tendency to invite husbands and wives. Employees get together on their own, and the festivities are sweet, short, and simple. When the company sponsored the party, it became a big production—a public relations event with husbands and wives.

"Once we even invited children," he adds with a shudder.

Alternatives to Christmas parties abound. There is no pattern emerging. One company computes what a party would cost and distributes the ante in the form of a small cash bonus. Another gives gift packages. Some donate the cost of a party to a charity, and this alternative seems to sit well with many employees. A machine tool company runs a party for a neighboring orphanage, and the employees act as hosts and hostesses. One organization, with a touch of originality, runs its "Christmas Party" in the summertime. It holds a July outing and picnic and distributes "Christmas bonuses" then.

The liquor problem

Everyone admits that party giving at Christmas is fraught with hazards —not the least of which is drinking. Controlling the flow of liquor is most difficult. No executive likes the onerous task of acting as censor of employees' party manners. One employer thought he had the solution to over-imbibing. He gave each employee two tickets which entitled him to a couple of drinks. But in every group, there are those who don't drink at all, and some of these ab-

stainers were found to be selling their ducats at 50 cents apiece. There were plenty of takers. Some employers run Christmas parties without liquor, but their number is few.

By far the most ticklish aspect of Yuletide parties is that employees often get out of hand, and management must exercise its prerogatives at a time when camaraderie should be the order of the day. Consider this situation:

The company Christmas party was going great guns. It was an annual affair, and the company supplied plenty of good food and lots of free beer. The event was held at the company's picnic grounds, and everyone—workers, supervisors, and top brass—were invited with their families. John X, a worker, was having a wonderful time hobnobbing with a group when he spied his foreman, William Jenks, near the bar. With a can of beer in his hand, John stalked over to his supervisor and began to complain about a grievance of his which had been turned down.

A splash of the hops

Jenks said, "This is no place to talk about grievances," then turned on his heel and started to leave, but John quickly caught up to him and dashed the contents of the beer can into his boss's face.

The next day, the company gave John a 30-day layoff. When John appealed his hurt to an arbitrator, the company put up this defense:

1. John used the wrong time and the wrong place to try to settle an earlier grievance.

2. Management cannot retain respect and authority if its workers feel they can insult supervision publicly with impunity.

3. We have a right to discipline John because this incident happened on company property.

John's answer was as follows:

1. I didn't know what I was doing. I was drunk. Let me apologize, and let bygones be bygones.

2. The picnic grounds are not plant premises, and the company cannot extend its disciplinary authority to this area. My behavior was outside regular disciplinary channels.

Arbitrator R. W. Fleming ruled in favor of the worker, noting that "when a company makes the decision to provide unlimited liquor on this kind of occasion, it runs a risk."

continued on page 88

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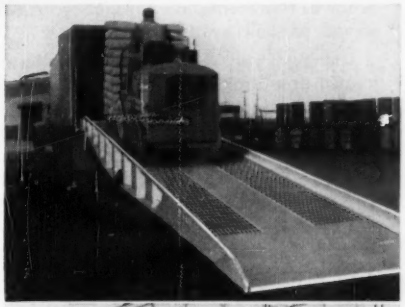

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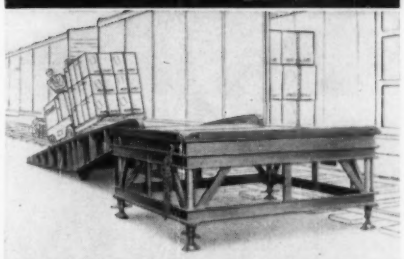
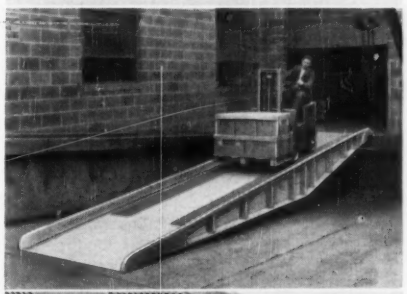


GROUND TO DOCK LEVEL . . .
This die castings manufacturer uses a Magliner Mobile Loading Ramp for two entirely different jobs—loading trucks from ground level, and also as a direct-access ramp from dock level to the yard storage area. Just one Magliner Mobile Loading Ramp cut cost in *shipping, receiving, storage* . . . saved time and money on all three operations!



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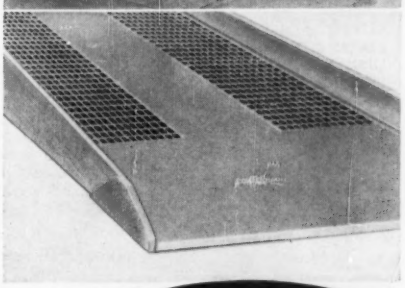

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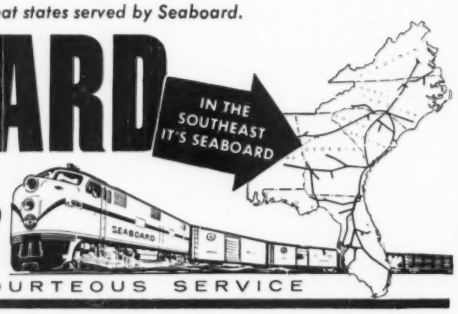

THE ROUTE OF COURTEOUS SERVICE

Companies which give bonuses in lieu of parties have a problem all their own. Is a bonus part of wage and salary, or is it not? If it is part of a worker's income, can the management discontinue the fringe if business warrants a saving in that direction? These questions may be urgent in bad times. During the recent recession, one outfit had just such a problem:

Every Christmas for ten years, this company had given a turkey to every employee. When business took a downturn, management decided to eliminate this annual handout. The union protested that this was a wage cut. Management stuck to its guns and maintained that the turkeys were a gratuity and could not be interpreted as being a "wage."

Arbitrator Milton H. Schmidt said: "Employers frequently expend company money for various employee benefits which have never been looked upon as compensation which the employee can demand be continued. The outfitting of athletic teams, picnics, scholarships for employees' children, presents at the birth of employees' children, these are but a few examples. No general prior agreement clause or past practice provision would compel a company to continue such programs if it wished to terminate them. In my judgment, the giving of turkeys at holidays is in the same general category. It is a gratuity above and beyond the agreed compensation to which the employee is entitled. The company is not obligated to continue."

Danger—stenos at play

There is another side to the Christmas party problem which makes executives shake their heads and say "never again." The danger of accidents—falls, shins bumped against desks or file cabinets, cuts from broken glass—is no minor matter. Even the boss is not immune. One executive tells the story of last year's Christmas party, which caused the company to lose the services of its director of marketing.

"Our man was a friendly sort. When a group of young clerks started a conga line, he joined it. I'll bet he hadn't been on a dance floor since he got out of college. Well, anyway, he slipped, wrenched his back, and was laid up for months."

A controller had another kind of

complaint. It seems that when one of the office girls felt a little dizzy after a sip of martini, the boss, in a moment of largesse, announced that anyone who didn't feel up to taking the bus home should take a cab at the company's expense.

"The next day, I paid out $170 in cash. Nobody felt up to a bus ride. They all rode home in style." END

Labor Tips and Trends

High-Flown Economics

The impact of foreign competition in U.S. markets is not a subject that many managements discuss with employees. Goodyear Rubber Company, Akron, Ohio, is different. The company devoted articles in three issues of the "Wingfoot Clan," its employee newspaper, to explain the extent to which foreign-made rubber and chemical goods have pinched American manufacturers. Highlight of the feature was a price list which compared Goodyear products with those of foreign competitors. Management, wisely, did not put the entire blame for the price differentials on high American wages.

"Wages are not the only factor contributing to the price advantage enjoyed by foreign rubber producers," the article said. "Many of them are operating slick, ultra-modern plants born of war recovery dollars that are marvels of efficiency."

Catch the Customer

Employees of the Monsanto Chemical Company, Monsanto, Ill., were startled one day by a series of plant posters proclaiming in big, black type: "WANTED (Alive)." The posters were part of a campaign to make workers customer-conscious. Copy read: "Wanted: Customers for our products. These customers are dangerous. They are armed with cash and will use it at the slightest provocation to get their hands on high-quality products. When last seen, they were talking with suspicious looking salesmen from competitive companies.

"A large reward in better job security and prosperity awaits the workers who can capture these elusive fugitives. Do what you can to bring them to justice. They can be helped. Our sales department will begin to rehabilitate them once they are captured."

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MANUFACTURING RATIOS

continued from page 65

Definitions of Terms

The Ratios—The data used are based upon a representative sampling with a tangible net worth which only occasionally is below $75,000. . . . The center figure for each of the twelve lines is the median. The other two figures in each line are quartiles; for each ratio they indicate the upper and lower limits of the experiences of that half of the concerns whose ratios are nearest to the median.

Collection Period—The number of days that the total of trade accounts and notes receivable (including assigned accounts and discounted notes, if any), less reserves for bad debts, represents when compared with the annual net credit sales. Formula—divide the annual net credit sales by 365 days to obtain the average credit sales per day. Then divide the total of accounts and notes receivable (plus any discounted notes receivable) by the average credit sales per day to obtain the average collection period.

Current Assets—Total of cash, accounts and notes receivable for the sales of merchandise in regular trade quarters less any reserves for bad debts, advances on merchandise, inventory less any reserves, listed securities when not in excess of market, state and municipal bonds not in excess of market, and United States Government securities.

Current Debt—Total of all liabilities due within one year from statement date, including current payments on serial notes, mortgages, debentures, or other funded debts. This item also includes current reserves such as gross reserves for Federal income and excess profit taxes, reserves for contingencies set up for specific purposes, but does not include reserves for depreciation.

Fixed Assets—The sum of the cost value of land and the depreciated book values of buildings, leasehold improvements, fixtures, furniture, machinery, tools, and equipment.

Funded Debt—Mortgages, bonds, debentures, gold notes, serial notes, or other obligations with maturity of more than one year from the statement date.

Inventory—The sum of raw material, material in process, and finished merchandise. It does not include supplies.

Net Profits—Profit after full depreciation on buildings, machinery, equipment, furniture, and other assets of a fixed nature; after reserves for Federal income and excess profit taxes; after reduction in the value of inventory to cost or market, whichever is lower, after charge-offs for bad debts; after miscellaneous reserves and adjustments; but before dividends or withdrawals.

Net Sales—The dollar volume of business transacted for 365 days net after deductions for returns, allowances, and discounts from gross sales.

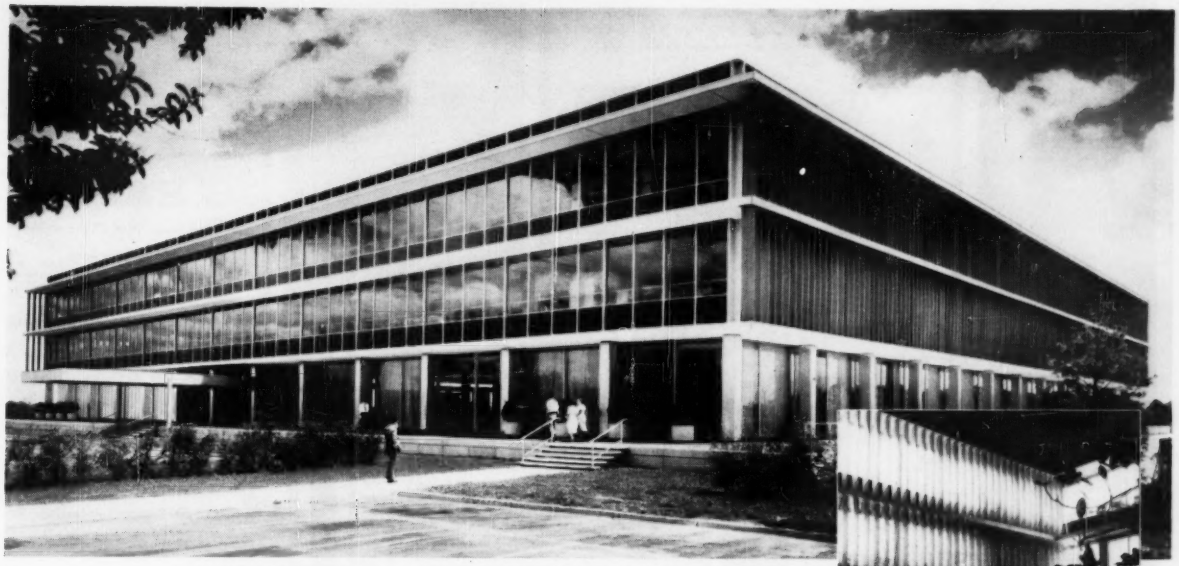
Net Sales to Inventory—The quotient obtained by dividing the annual net sales by the statement inventory. This quotient does not represent the actual physical turnover, which would be determined by reducing the annual net sales to the cost of goods sold and then dividing the resulting figure by the statement inventory.

Net Working Capital—The excess of the current assets over the current debt.

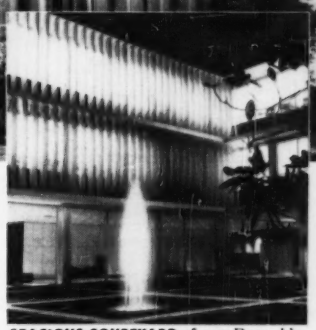
Tangible Net Worth—The sum of all outstanding preferred or preference stocks (if any) and outstanding common stocks, surplus, and undivided profits, less any intangible items in the assets, such as goodwill, trademarks, patents, copyrights, leaseholds, mailing list, treasury stock, organization expenses, and underwriting discounts and expenses.

Turnover of Tangible Net Worth—The quotient obtained by dividing annual net sales by tangible net worth.

Turnover of Net Working Capital—The quotient obtained by dividing annual net sales by net working capital.

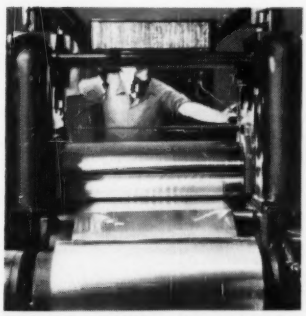


$11,500,000 BUILDING was completed in 1958, has won architectural acclaim. Many additions are planned, including a second office building, research center and product display building.



SPACIOUS COURTYARD of new Reynolds Metals Company General Office Building in Richmond, Virginia. The aluminum building has glass walls shielded by the world's largest system of automatic sun louvers also made of aluminum.

Internationally Known Reynolds Metals Company Makes Its Headquarters



WORLD'S LARGEST producer of aluminum foil, Reynolds Metals employs 3,200 people in the state. Five Reynolds manufacturing plants in Virginia have a total of 722,000 square feet. Its new plastics plant went into full operation in Grottoes, Virginia, in September of '59.

in VIRGINIA

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Moreover, Reynolds finds Virginia a good place in which to do business because of its accessibility to major markets, the state's pay-as-you-go fiscal policy, fine schools and colleges, moderate climate, unsurpassed cultural and recreational facilities.

If you are planning new offices or a new plant, let us tell you why so many companies are locating in Virginia. Phone, wire, write, or visit in complete confidence . . .

***Let These Outstanding Companies Tell You Why They Located in* VIRGINIA**

- Johns-Manville Corporation
- Sperry Piedmont Company
- American Oil Company
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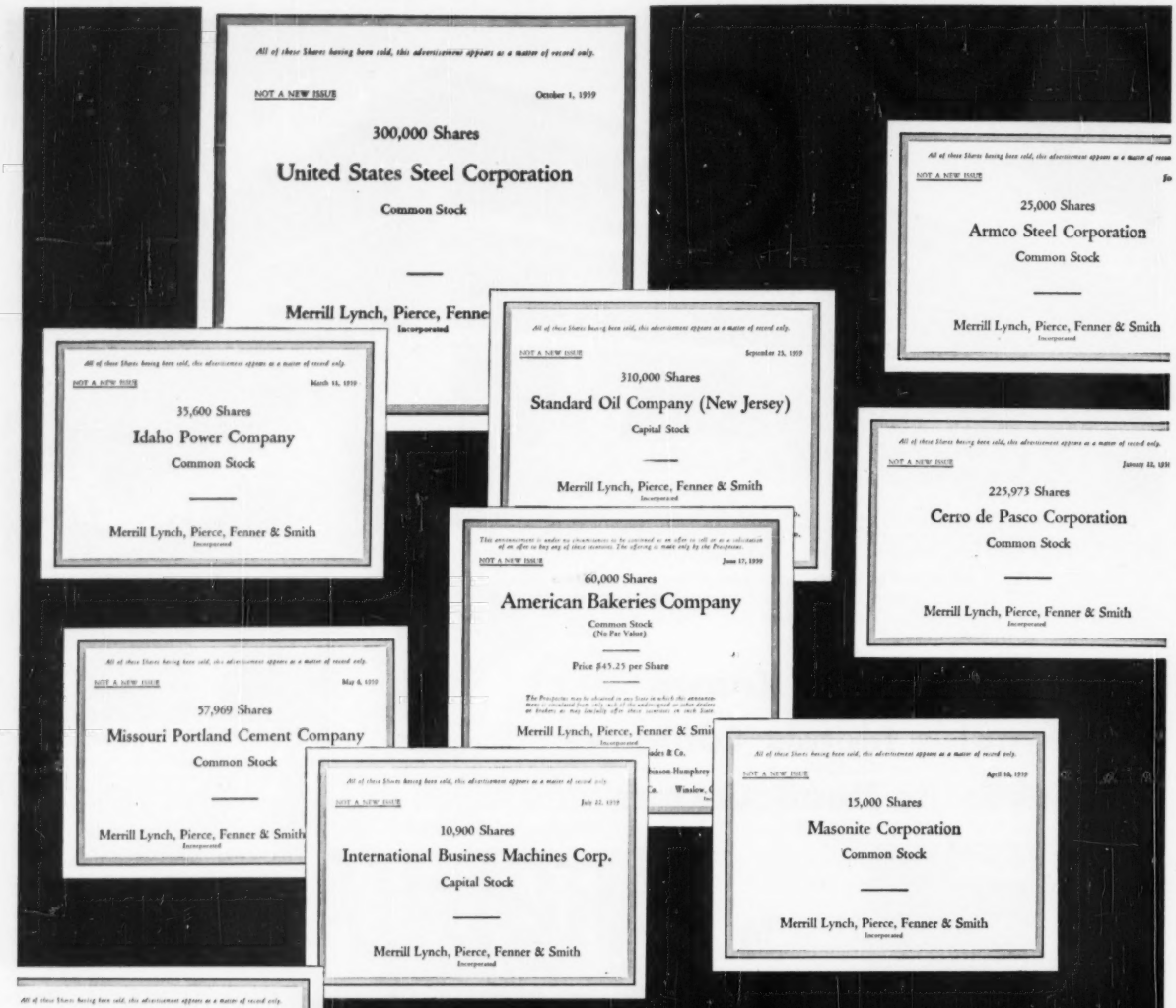

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Here, for instance, are some of the secondary and exchange distributions that we have handled so far this year—blocks ranging in size from 15,000 shares of Masonite to 300,000 shares of U. S. Steel and Standard Oil of New Jersey.

If you have a block of stock you would like to sell—5,000 shares or 50,000 or 500,000—we would be happy to discuss your problem with you and place at your disposal the considerable experience we have had in the handling of block business. For a confidential discussion, may we suggest that you call or write Mr. Norman Smith.

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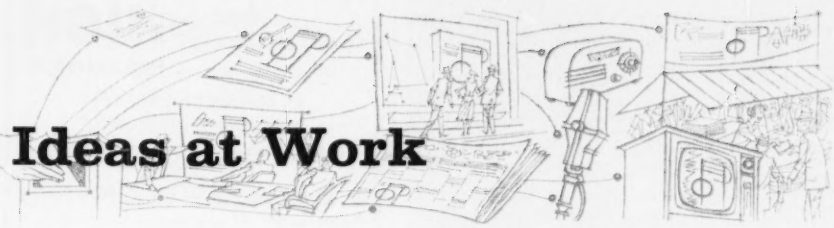

Ideas at Work

- *Wanted: homemade inventions*
- *Industry woos the arts*
- *Focus on plant safety*

New Idea Mart

The ancestors of 90 per cent of the basic products now on the market came not from great industrial laboratories but from the basement workshops of independent inventors. The lone inventor is still hard at work today, but because he lacks the means of marketing his creations, many practical ideas are lost to product-hungry industry.

To tap this rich source of new product ideas, a group of upstate New York companies in such diverse fields as tool making, instrumentation, foundry work, textiles, chemical processing, metal work, and paper products have recently formed the Mohawk Valley New Products Clearing House, Inc., with headquarters in Utica, N.Y.

Their combined technical and financial resources and their skills in production, marketing, and advertising are available free to anyone with an idea for a new, non-competitive product—that is, a product that is non-competitive in the same sense that the automobile was not competitive with the horse and buggy.

A screening committee of qualified technical persons reviews all patents, plans, and proposals submitted. Those ideas which survive the initial screening are presented to member companies for bids.

Once a member company has been selected to produce and market a new product idea, a royalty schedule is agreed upon. The Clearing House receives all royalties, remitting to the inventor two-thirds and retaining one-third. The inventor pays no other charges or fees.

In less than a year, about 40 product ideas have passed the screening committee and are now up for bids. Herbert Wachsmann, president of the Clearing House, reports a heavy response from inventors from 35 states, as well as Canada and Switzerland. A surprising number of committee-approved inventions have come from housewives. And they're not all for better potato peelers, either.

Artists and Managers

Business has lately begun to realize that something needs to be done to gain the support and understanding of a growing intellectual public. Many companies are offering educational grants and increasing their community participation. And a growing number of companies also are attempting to strengthen the ties between art and industry by supporting the arts in the manner of the patrons of old.

For example, the office walls at the Burndy Corp., a Norwalk, Conn., manufacturer of electrical equipment, are hung with paintings which ex-

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press the romance and excitement of modern technology and portray the scientists who have made contributions to industry.

Recently, 35 of the paintings owned by Burndy were exhibited at the Silvermine Guild of Artists, New Canaan, Conn. According to John Vassos, noted industrial designer and board chairman of the Guild (shown at the left in the photo on page 93 with Burndy's president Marvin Lee), "Artists are learning to draw inspiration from the achievements of science and industry. In earlier times, religion and conquest were dominant forces, and art based on those subjects expressed the spirit of the time. The technology that shapes modern life is rich in stirring messages for the creative artist to interpret and convey."

For Safety's Sake

It takes a lot of ingenuity to think up a novel approach to plant safety. Here are some new ideas safety supervisors are trying:

If employees of Sonoco Products Company, Hartsville, S.C., maintain a perfect safety record throughout the year, they split a "safety kitty" worth as much as $19,000. The amount is reduced each time there is an accident. As an additional incentive, once a week a giant "Wheel of Safety" set up on the company lawn is spun, and the employee whose clock number the indicator points to receives $10 if he has not had a reported injury that month.

Special traffic signals set up at the entrance of the Crouse-Hinds Company, Syracuse, N.Y., stay green so long as there are no accidents, but flash red when a mishap occurs. Appropriately enough, the company makes traffic signals.

The employee of Mead Johnson & Company, Evansville, Ind., who reports the safety hazard with the greatest accident potential during Safety Suggestion Week gets a $200 bonus award in addition to the regular suggestion award.

Word of Mouth

One way to plant the corporate name in the minds of future college graduates is to acquaint their professors with the company and its operations.

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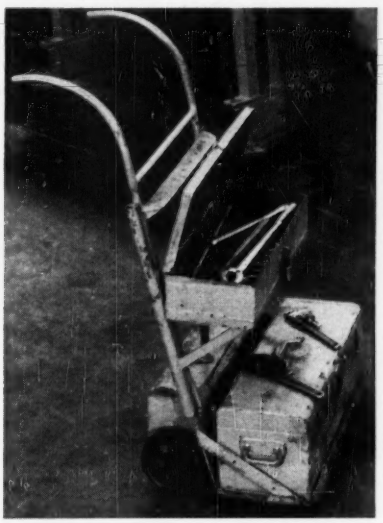
technical center at South Charlestown, W.V., recently, it brought 130 faculty members from leading engineering colleges across the country to attend the ceremonies.

The hope is that when they return to campus, the professors will tell their students about the expanding company.

Handy Tool Crib

When a maintenance man starts his rounds, he never knows what jobs may be waiting for him. Either he must lug around a couple of heavy tool chests, or he must keep returning to the tool crib for needed tools.

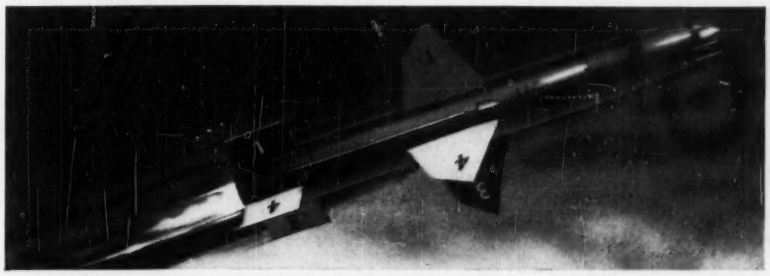
Hand trucks equipped with shelves for three or four tool chests (see photo) have provided a simple solution to this problem for the maintenance department at the Decatur, Ill. plant of Wolverine Tube Division, Calumet & Hecla, Inc.



The first units developed by the company's maintenance engineers were shop-fabricated from scrap parts. Newer units, which are built by shop-modifying standard hand trucks, combine mobility, capacity, and ease of use, and provide each maintenance man with his own tool crib on wheels.

Meet the Customer

How to teach non-sales people what the customer wants in a product? Send them out on sales calls. Fifty-five non-sales home office personnel of Eli Lilly & Company, Indianapolis, Ind., are trained to take over



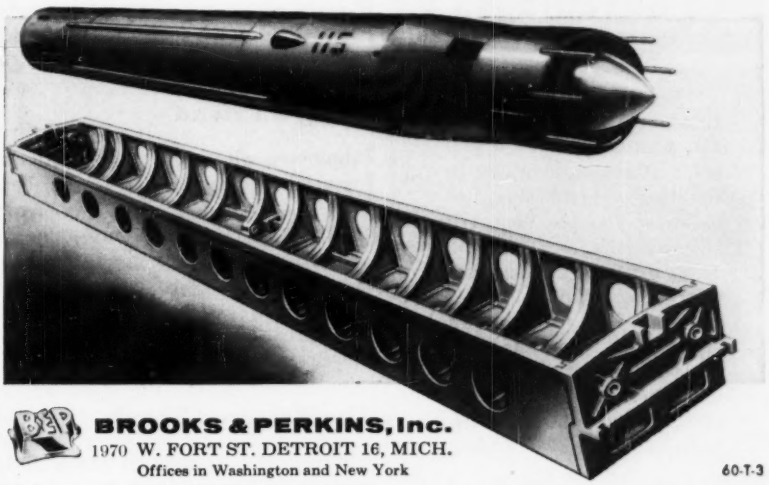
Missile Tray Made by B & P Beats Target Weight by 300 lbs.

Air transported missiles require minimum weight handling equipment so that important defense weapons can be moved efficiently and on schedule. Recently, Brooks & Perkins was given the responsibility for engineering, designing, building the prototype and manufacturing an aluminum missile tray, shown below.

Unusual loading problems and the extreme importance of deflection required a dimensional tolerance of ± 1/32" in the 33-foot over-all length at 68°F. B & P not only met all tolerance requirements, but also reduced the initial target weight by 300 lbs.

The aluminum missile tray is another example of Brooks & Perkins skill and experience in the fabrication of light metal products for ground support equipment.

For more information and details of this and other GSE programs, write direct to Brooks & Perkins, Detroit.



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In addition to making sure that all sales territories are covered, the plan teaches home office people that there is more to the salesman's job than order-taking—the customer must be sold.

As Others See Them

Many companies conduct public opinion polls to find out how they rate with the community in which they function. But rarely are the results passed along to the employees.

The Connecticut Light and Power Company, Hartford, Conn., believes that its employees need to know the facts in order to spread the good word about the company and build customer good will.

The findings in a survey conducted to find out if CL&P customers were satisfied with their service are sent to each employee so that he may pass on the favorable comments to his friends. If areas where improvement is needed are discovered, these are also pointed out to the employees.

Bring a Friend

Employees who send their friends in for a job get cash awards from The First National City Bank of New York. The bank pays a staff member $25 when a friend is hired and $25 more when he passes the twelve-week probationary period. For three successful introductions, the employee earns $200, tax-free.

The Personal Touch

Nothing like seeing his name imprinted on his paycheck to make an employee feel he belongs, the Detroit Bank & Trust Company believes. The personalized paychecks are issued to all full-time staff members.

Benefits on a Platter

To draw attention to important changes in its benefit program, Hardware Mutuals, Stevens Point, Wis., put the information on a phonograph record and distributed it to all employees. The record was inserted in a special pocket in the company house organ and was accompanied by a personal message from the company president. —C.K.

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Capital Views & Previews

PAUL WOOTON

Straight talk on taxes from
Budget Director Maurice H. Stans

HIGHER AND higher taxes and budgets bordering on $90 billion are in the cards if Government spending is not soon curbed. That is the ominous prediction of the man closest to the situation, Maurice H. Stans, Director of the U.S. Bureau of the Budget.

The impact of the steel strike on Federal revenues has all but nullified the Administration's vigorous efforts in the Congress to balance the 1960 budget at $78.9 billion by holding the line on spending. And Stans concedes that if tax receipts do not rise markedly, the Federal budgets for 1961 and the fiscal year ending June 30, 1962 will also be written in red ink.

Built-in billions

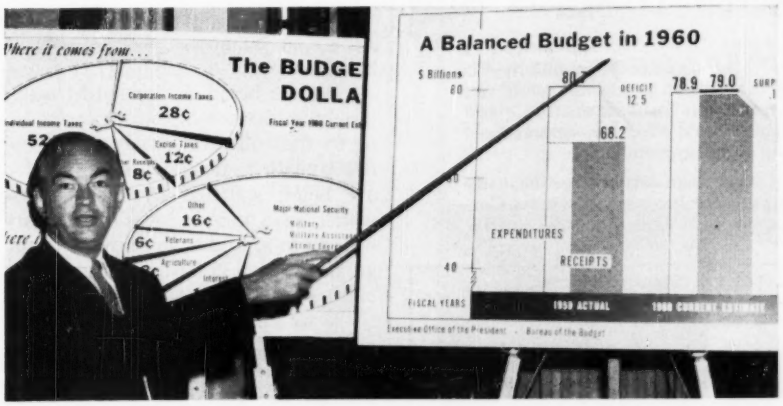
"More than a third of the total 1961 budget was fixed by action taken in previous years," the Budget Director explains. "Commitments under present laws provide built-in momentum to raise total expenditures by $3 billion. In addition to the huge total for defense, the 1961 budget will provide record expenditures for medical research, water resources, education assistance to communities, and many other activities."

What's more, he warns, if more such civilian programs are added to our security costs, "we will have to accept $80 billion budgets as a way of life and begin the climb to $90 billion budgets and higher and higher taxes."

Thrift or taxes?

As Stans sees it, the issue boils down to this: Inflationary deficit budgets can only be avoided by tighter controls on Government spending or by heavier taxation. And he flatly rejects the latter remedy, saying it "would slow the economic growth we must achieve if we are to hold our position in the world."

"We must not accept the fallacy that some inflation is necessary to stimulate growth," he declares. "We should use a growing and productive economy to reduce debt, to lessen



Budget Director Maurice H. Stans

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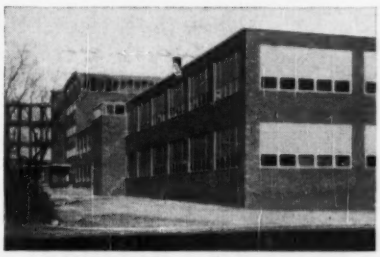

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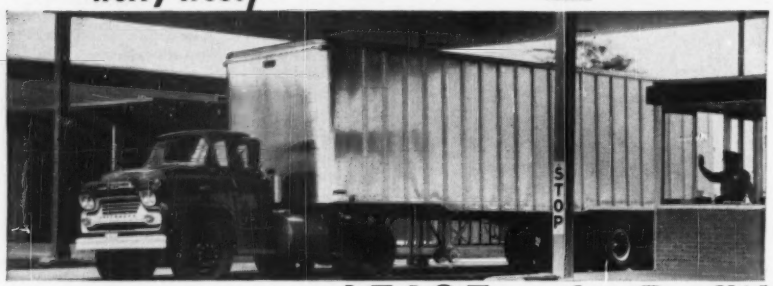

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taxes, and to make possible new undertakings."

Stans, who believes that a balanced budget is the best weapon in the fight against inflation, cannot understand why the country should be divided on the issue.

"Today, a balanced budget is debated furiously in the face of a public debt more than triple the size of the budget. At the end of the calendar year, it will be close to the ceiling —$295 billion. Eleven cents out of every tax dollar goes for interest charges on that debt. Past deficits have exacted a terrible price. The dollar today buys only half what it did in 1939."

If we cannot live within our income with our present high taxes, asks Stans, when will the budget be balanced and when will reductions be made in the debt? Must we write off hope of tax relief for all time? The answer, he insists, is squarely up to the American public.

Informing the voters

"Worthy programs that cannot be financed within a balanced budget need not be lost," the Budget Director points out. "They can wait a year or two. But the voters must be convinced that the wait is in the national interest. We need a better-informed electorate. The right to vote must be exercised with responsibility."

The high cost of national security can and must be absorbed without debasing our money, Stans contends, if the United States is to survive and meet its world responsibilities. One result of the trend away from nationalistic self-dependence and toward agreements on monetary, trade, and customs matters will be that depressions, wherever they occur, will affect the whole world economy, he adds.

Everywhere, Stans comments, the American economic way of life is being weighed.

"We are being challenged by a determined dictatorship which looks for us to stall our economic growth between high taxes and inflation. We are being watched by free nations which have known inflation and are waiting to see how, and how well, the greatest free enterprise system on earth will deal with the problem.

"If we can't handle our own financial affairs, how can we be a bulwark of strength to others, and how can we sell them our way of life?"

END

EXECUTIVE BOOKSHELF

Brief Reviews of New Business Books

The Image of Business

BIG BUSINESS AND FREE MEN *by James C. Worthy. Harper & Brothers, 49 East 33rd St., New York 16, 205 pages, $4.*

The business man's open avowal of self-interest exposes him to attack, a top executive declares; only by deeds which prove his intention is to serve the needs of society can he earn the public's confidence and respect.

Practices and Prejudices

EMPLOYING THE NEGRO IN AMERICAN INDUSTRY. *Industrial Relations Counselors, 1270 Avenue of the Americas, New York 20, 171 pages, $6.*

Hard facts on the Negro worker's job performance and social relationships, gathered in a study of company practices, provide helpful guides to management in this delicate policy-making area.

A Managerial Monarchy

THE INCREDIBLE KRUPPS *by Norbert Muhlen. Henry Holt and Company, Inc., 383 Madison Ave., New York 17, 308 pages, $5.*

A lively chronicle of the 400-year-old Krupp dynasty, whose steelmaking fortune has risen and fallen with the tide of German nationalism and whose family closet rattles noisily with a fascinating collection of skeletons.

New Product Teamwork

DEVELOPING A PRODUCT STRATEGY. *American Management Association, Inc., 1515 Broadway, New York 36, 352 pages, $7.50.*

Experts tell how to minimize the risks of innovation by organizing finance, research, engineering, production, marketing, and sales managers into a smoothly working product-launching team.

Trouble on the Campus

THE EDUCATION OF AMERICAN BUSINESS MEN *by Frank C. Pierson. McGraw-Hill Book Company, 330 West 42nd St., New York 36, 740 pages, $7.50.*

A large-scale survey reveals business schools are failing to attract top-caliber students and recommends broader, more demanding programs and higher academic standards to equip graduates to handle the manager's increasingly complex duties.

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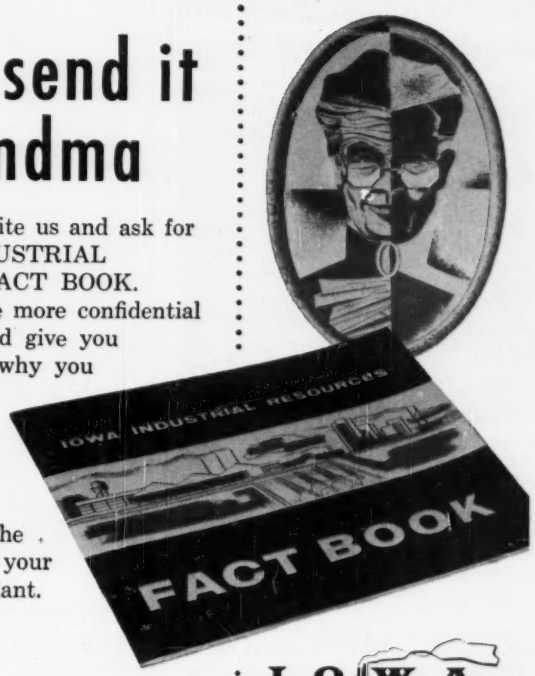

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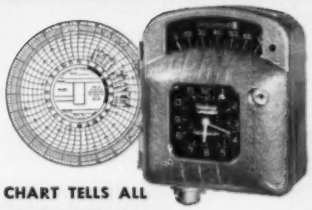

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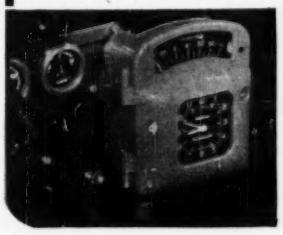

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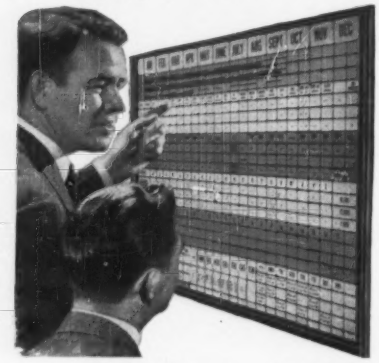

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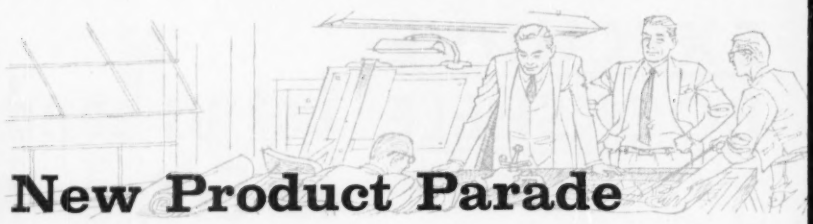
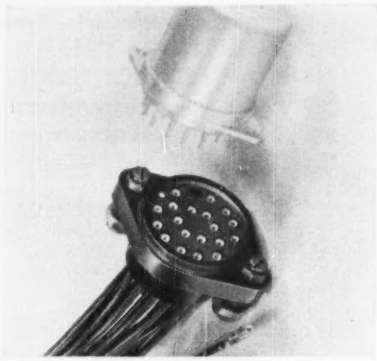


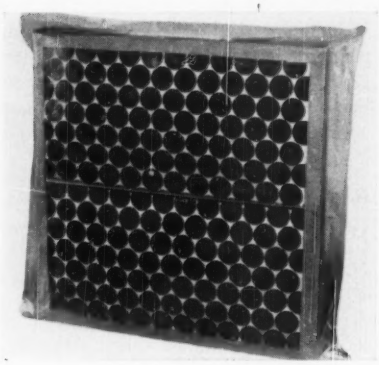
New Product Parade



ACTIVATED CARBON: Deodorizing and air-cleaning functions are combined in this one filter. It is disposable, eliminating the need for reactivation. The filter is recommended by the manufacturer for almost any situation where contaminants in vapor form must be removed from an enclosed space. *American Air Filter Company, Louisville 8, Ky.*

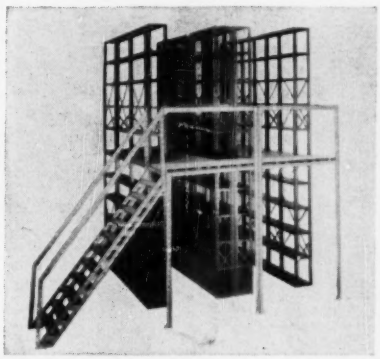
HYDRAULIC SPRAYING: This new spraying system atomizes materials not by compressed air but by hydraulic pressure alone. Less material is used through better spray control, and the amount of atomized material in the atmosphere is reduced. *"No-Air Dyna-Spray," Lincoln Engineering Company. 4010 Goodfellow Blvd., St. Louis.*

VERSATILE RECEPTACLE: This electrical receptacle for plug-in components accepts snap-in socket contacts. The sockets are simply crimped to wire ends and snapped into the receptacle. The unit is adaptable to many uses, since only the required number of sockets are inserted. They can be removed for circuit changes. *Burndy Corp., Norwalk, Conn.*

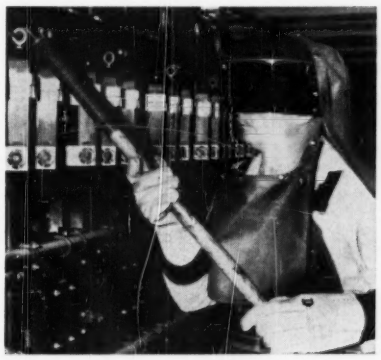


BATCH DUMPING: The contents of eight sections of this trailer can be dumped separately, by remote control. Hydraulic trippers, mounted on the side of the body, are controlled from inside the cab. Hydraulically operated "levelizers" on rear tandems minimize the danger of tipping when the body is raised. *Galion Allsteel Body Company, Galion, Ohio.*

» *This month: new spraying equipment; safety and ease for the workman; time and space savers in the office and shop; convenient materials handling and storage.*

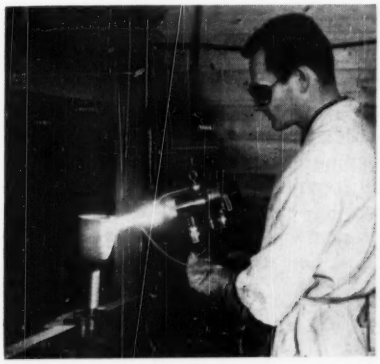


EASY ACCESS: Shelving can now be stacked as high as needed and still be easy to reach with a new system of catwalks. Non-skid steel catwalks are of modular design and can be fitted to any shelving layout. The units are installed complete with an access stairway. The same components can be used to build a second floor or mezzanine. *Equipto, Aurora, Ill.*



SAVING FACE: High-voltage switch throwers are given an extra measure of protection with this new safety helmet. A green acetate window section protects the worker's eyes from infrared and ultraviolet radiation. A special fabric by Reeves Brothers, Inc. protects from flying sparks and electric shock. *American Optical Company, 155 East 44 St., New York 17.*

HIGH AND LOW: A new low-cost maintenance and work platform with a 1,000 lb. load capacity can be adjusted to any height from three to seven feet by means of a manual hydraulic pump located on the platform deck. For portability, the unit is mounted on 8-inch locking casters. *Aero-Test Equipment Company, P.O. Box 10627, Dallas.*



HOT SHOT: This new plasma flame spray gun is designed to spray any material that will melt without decomposing. It develops temperatures of 10,000 to 15,000° F for applying coatings of materials with high melting points—such as tungsten and zirconium carbide—according to the manufacturer. *Metallizing Engineering Company, Westbury, N.Y.*

more news on next page

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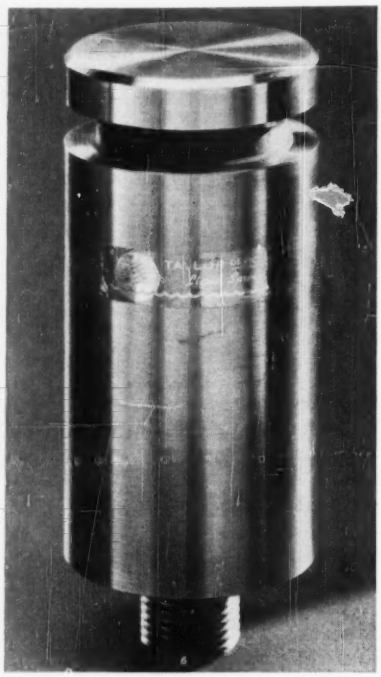

added. The spring is available in a variety of mountings, such as pin eyes, clevises, and trunnions. *"2040 Liquid Spring and Spring Shock," Taylor Devices, Inc., 188 Main Street, North Tonawanda, N.Y.*

»

LIQUID THERMOMETER: A new material indicates when a heated surface reaches a desired temperature. Available in stick, pellet, or liquid form, the material is applied to the surface being heated and liquefies at the correct temperature. It is provided in a wide choice of Fahrenheit ratings—which, according to the manufacturer, will cover all requirements in the heat treating and heat processing fields. *"Thermomelt," Markal Company, 3052 West Carroll Ave., Chicago 12.*

»

DIAL CHART: A flip of the finger brings a new wall chart up to date. Each station on the chart is a small cylinder, divided into five colored segments. Each color is assigned to represent a phase of production. The desired color is exposed simply by rotating the drum—a flip of the finger does it. Provision is made for additional coding, as needed. Eleven standard models are available. *"Unigraph," Art Metal Construction Company, 369 Broadway, New York 13.*

»

PAINT AWAY INSECTS: A new wall finish contains a permanently suspended insect killer, which is said to retain its effectiveness as long as the painted surface remains undisturbed. The insecticide, which is stronger than DDT, is completely safe for humans and animals, according to the manufacturer. The paint is available in fourteen colors, at about $7 per gallon. *"Kil-Sect," Consolidated Paint & Varnish Corp., 505 Fifth Ave., New York 17.*

»

PRINT AND PUNCH: This new check writing machine punches holes in tab card checks, and imprints the amount simultaneously. Register and file copies are done at the same time, too. This time saver eliminates errors, be-

cause the punched amount is always the same as the printed amount. The writer can be combined with a check signing and dating machine, so that all operations necessary for check writing can be done at one time. *"Keypunch Protector," The Hedman Company, Chicago 14.*

»

OIL WATCHDOG: A new meter shows at a glance the condition of oil in

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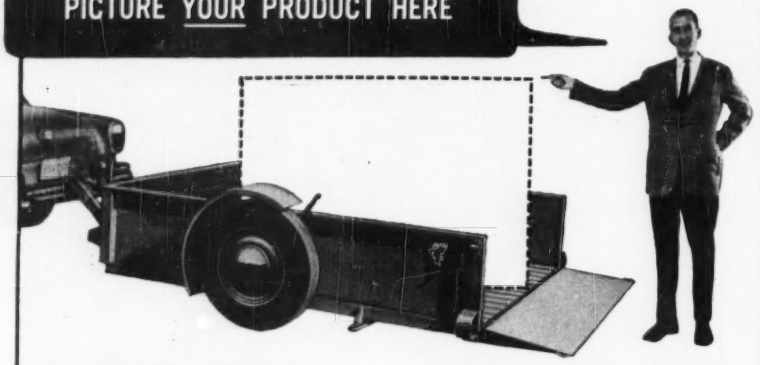

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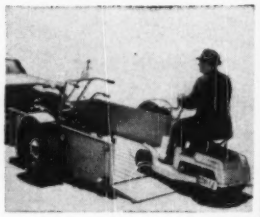

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diesel, gasoline, and gas engines. It indicates changes in the oil, such as dilution, or contamination, which in turn might indicate engine defects. The meter is not affected by variations in the crankcase temperature,

and readings can be taken even when the engine is stopped. *The Gerin Corp., Avon, N.J.*

ULTRA-PURE: A new vertical floating-zone scanning machine is equally practical for producing ultra-pure metals and semiconductors either in the lab or in the plant. Induction heating establishes a narrow molten area along the entire length of a vertically supported impure metal bar, and it is maintained by electromagnetic force, surface tension, and hydrostatic pressure. The scanner can be set to scan and return in a continuously automatic operation. *"Ther-Monic T-24 FZ," Dept. PR-7, Induction Heating Corp., 181 Wythe Ave., Brooklyn, N.Y.*

FOLDING BOXES: New corrugated steel storage boxes fold flat when not in use. They are easily set up by locking the sides into keyhole-type slots. To fold, the sides are simply lifted and lowered. The legs are fitted in order to stack the boxes safely to any desired height. The boxes can be furnished with a folding half-door for easy removal of parts. *Palmer-Shile Company, 16034 Fullerton, Detroit 27.* —E. G.

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The Reviewing Stand

Progress Can Be Painful

The defense program is bedeviled by the speed of inventive progress in electronics, aircraft, missiles, fuels, and the techniques which attend them. But industry too is disturbed by rapid advances in chemistry, plastics, metals, fabricated methods, computation, and packaging techniques. Any basic change can set up a chain reaction that upsets the routines in industry, crafts, and trades.

New industries are conceived daily out of new circumstances. Some ideas die on the drawing board, some in the mock-up stage, and some on the day of delivery. The new disease of our epoch is "pre-natal obsolescence."

Is this vast consumption of material and time to be considered waste? Or is it the price of progress? The rate of change in the evolutionary industries—electronics, chemistry, plastics, and synthetics—is disturbing to the business men who prefer the status quo.

Whether in textile production, steel fabrication, or airlines, it's a wise management that sets a rapid depreciation schedule, and it would be a rational income tax policy to recognize the necessity for it.

Competitive atomic power may be decades away, and industry continues to run on energy generated by coal, oil, and water. One thing it can't run on for long is momentum—the "wait and see" policy that refuses to assess the vast impact of technological change.

Mel Mandell, our Industrial Editor, has been observing these kaleidoscopic changes, which keep laboratory researchers as excited as children at a peepshow and put top management in a mixed mood of anticipation and trepidation. In the January issue of DUN'S REVIEW, he will tell about some of the startling new advances in chemistry and the impact they are destined to have on the rest of American industry.

The Asian Challenge

Sir Mortimer Wheeler, the English antiquarian, quotes Cicero as follows: "The credit of the Roman money market is intimately bound up with the prosperity of Asia. A disaster cannot occur there without shaking our credit to its foundation." Nearly 2,000 years later the situation is pretty much the same, as the Asian peoples throw off colonialism and assert their racial parity.

In this period of ideological turbulence, the dollar, the pound sterling, and the ruble must vie for political and commercial prestige in Asian markets. China and India alone account for one-third of the world's people, and the Asian population is gaining rapidly on the dominant but politically diverse white population of Europe and America.

More than a thousand years before Marco Polo, Roman traders swapped crockery for silk in China, brought lead plumbing to England, and fetched back amber from the Baltic. Other empires have blossomed and faded; other curtains, political and religious, have risen and fallen. Only the problem remains the same, as the peoples of newly developing nations stand up and assert themselves.

Distrust of the white man in the Far East and Africa is apparent—and it can be ominous unless we disarm the suspicion of friend and foe alike by fair play and more than a little patience with the young nations of an ancient culture now coming of age. That the United States is aware of the challenge and ready to help these peoples achieve economic independence is symbolized by the friendship of Japan, the freedom of the Philippines, and the absence of U.S. control over any major ethnic group in Asia. —A.M.S.

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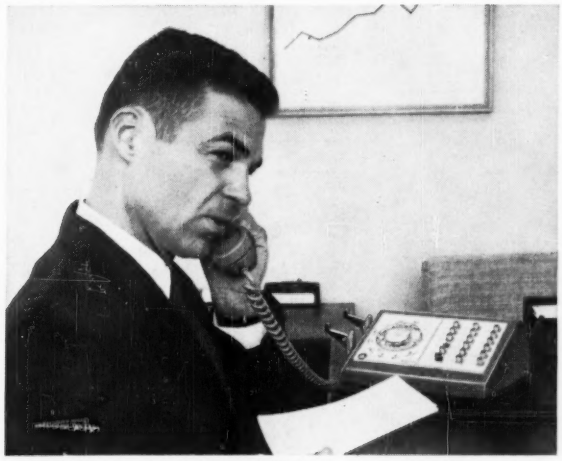
YOU CAN TALK TO OTHERS in your office, plant or store just by pushing a button or dialing.

YOU CAN SET UP CONFERENCE CALLS with as many as *six* different people on the line at once.



YOU CAN ADD ANOTHER PERSON to an outside call, then stay on the line or get off, as you like.

YOU CAN TAKE CALLS on up to 29 outside, extension or intercom lines, even *hold* many of them.

The new Call Director telephone with Bell System intercom is a real boon to busy businessmen. Its many pushbuttons provide the kind of fast, flexible desktop communications you need to get more done each day, give customers better service and otherwise boost efficiency and profits.

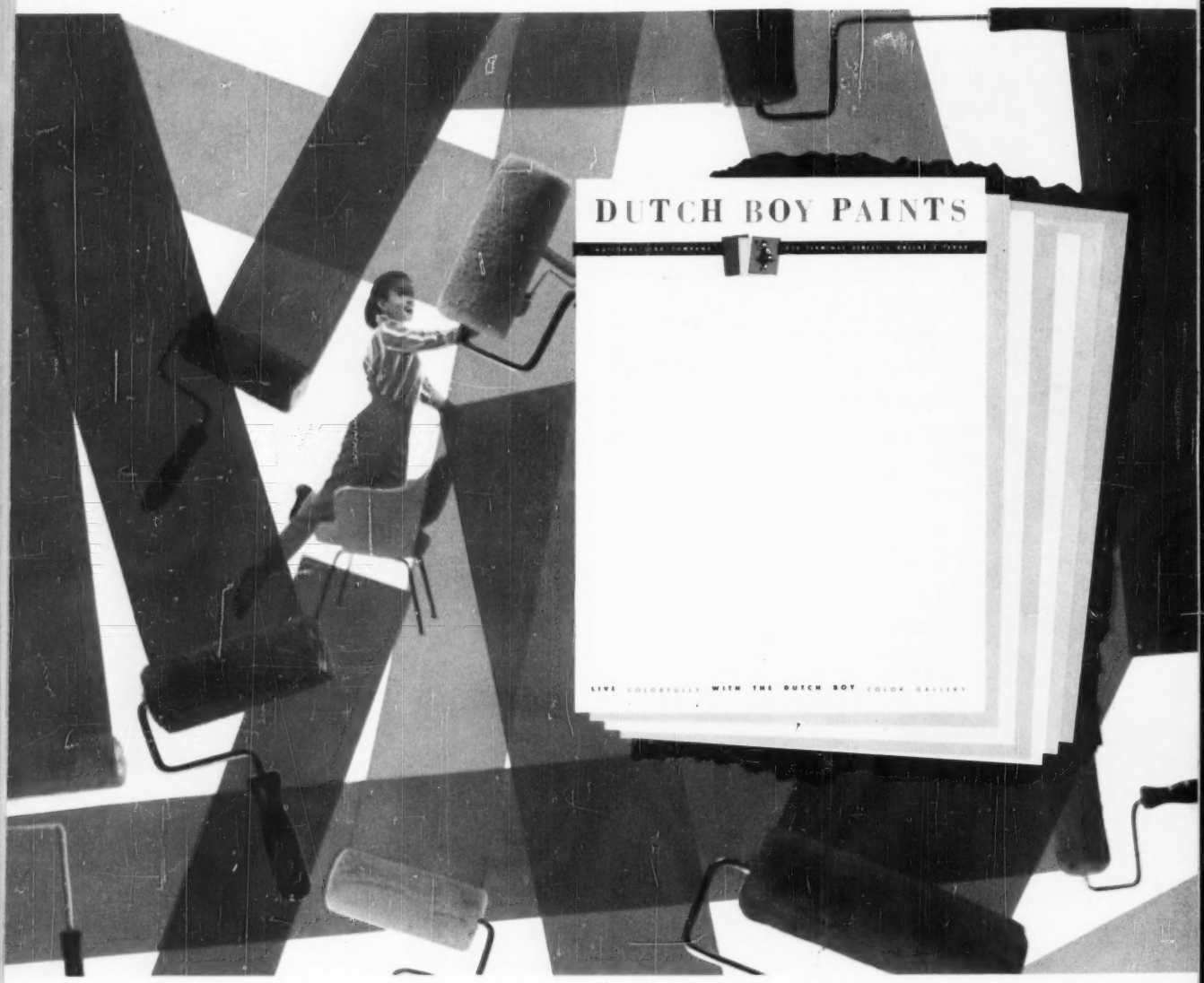
There are two versatile models: an executive model with up to 18 buttons; and a secretarial model with answering and call-holding facilities for as many as 29 lines. Both are smartly designed in green, gray or beige with contrasting face plates.

The Call Director is just one of many new Bell System developments with profit potential for your business. A communications expert is ready to discuss them with you. Just call your Bell Telephone business office. No obligation.

This six-button Bell System telephone also provides a wide range of flexible intercom features.

BELL TELEPHONE SYSTEM

Colorful. . . .



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